S. HRG. 98-224, pt. 2

MISCELLANEOUS RECLAMATION LEGISLATION

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

FIRST SESSION

ON

S. 622

A BILL TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO UNDERTAKE FEASIBILITY INVESTIGATIONS

S. 662

A BILL TO PROVIDE FOR CONFIRMATION OF THE REPAYMENT CONTRACT OF THE DALLAS CREEK PARTICIPATING PROJECT OF THE UPPER COLORADO STORAGE PROJECT

S. 805

A BILL TO AMEND THE ACT OF JULY 28, 1954 (68 STAT. 575), TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO CONSTRUCT, OPERATE, AND MAINTAIN THE SANTA MARGARITA PROJECT, CALIFORNIA, AND FOR OTHER PURPOSES

S. 818

A BILL TO AUTHORIZE THE REPLACEMENT OF EXISTING PUMP CASINGS IN THE ROBERT B. GRIFFITH WATER PROJECT PUMPING PLANTS 1A AND 2A (FORMERLY THE SOUTHERN NEVADA WATER PROJECT), AND FOR OTHER PURPOSES

MAY 2, 1983

PART 2

Printed for the use of the Committee on Energy and Natural Resources

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MISCELLANEOUS RECLAMATION LEGISLATION

MONDAY, MAY 2, 1983

U.S. SENATE,
SUBCOMMITTEE ON WATER AND POWER,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:08 a.m., in room SD-138, Dirksen Office Building, Hon. Don Nickles, presiding.

Present: Senator Nickles.

Also present: Russell R. Brown, professional staff member; and Craig Gannett, counsel for the minority.

OPENING STATEMENT OF HON. DON NICKLES, A U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator NICKLES. Good morning. I apologize for being a few minutes late. It's a new room and it's hard to find my way around in this different building.

We're going to take up four bills today, three of which we've had hearings on last year, so I'm in hopes that maybe on at least those three we wouldn't have to spend a lot of time. S. 622, a bill by Senator McClure to authorize the Secretary of the Interior to undertake feasibility studies; and also, S. 662, coauthored by Senator Armstrong and Senator Hart would confirm the Dallas Creek repayment contract; and also, S. 805, by Senator Wilson, to authorize the Santa Margarita project in California; then finally, S. 818, coauthored by Senator Laxalt and Hecht to authorize the replacement of some casings on the Robert Griffith project in Nevada.

Similar bills to S. 662 and S. 805 and S. 818 were the subject of hearings before this committee during the 97th Congress. And two of the bills, feasibility studies and Nevada pumps, passed the Senate last year.

We will ask the clerk to put copies in the record of each of the bills, and additional statements from members.

[The texts of the bills and statements follow:]

II

98TH CONGRESS
1ST SESSION

S. 622

To authorize the Secretary of the Interior to undertake feasibility investigations.

IN THE SENATE OF THE UNITED STATES

MARCH 1 (legislative day, FEBRUARY 23), 1983

Mr. MCCLURE introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources.

A BILL

To authorize the Secretary of the Interior to undertake feasibility investigations.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is hereby authorized to engage in feasibility studies of the following proposals:

(1) Colville Indian Reservation, Chief Joseph Dam project, located in northeastern Washington;

(2) Gibson Dam powerplant, located on the Sun River in Lewis and Clark Counties, Montana;

(3) Imperial Irrigation District canal lining, located in Imperial Irrigation District, Imperial County in southern California;

(4) New Melones conveyance system study, Central Valley Project, Stanislaus River division, located in Tuolumne, Calaveras, Stanislaus, San Joaquin, and Merced Counties, California:

(5) Pilot Butte powerplant, Riverton unit, located in Fremont County, Wyoming;

(6) Prairie Bend unit, located in the Platte River Basin, located in Buffalo and Hall Counties, Nebraska. Such feasibility study shall include a detailed report on any effects the proposed project may have on wildlife habitat, including habitat of the sandhill crane and the endangered whooping crane;

(7) Siletz River Basin project, located in Lincoln and Polk Counties, Oregon;

(8) Spring Canyon pumped-storage project, located in Mohave County, Arizona;

(9) Tongue River Dam, located in Big Horn and Rosebud Counties, Montana;

(10) Water conservation and efficient use program. All-American canal relocation project, located in Imperial County, California;

(11) Upper Klamath offstream storage study, Klamath project, located in Klamath County, Oregon;

(12) Blue Holes Reservoir, located in Fremont County and the Wind River Indian Reservation, Wyoming;

(13) Muddy Creek Basin hydrologic, surge relief, and erosion control study, near Great Falls, Montana.

II

98TH CONGRESS
1ST SESSION

S. 662

To provide for confirmation of the repayment contract of the Dallas Creek participating project of the Upper Colorado storage project.

IN THE SENATE OF THE UNITED STATES

MARCH 3 (legislative day, FEBRUARY 23), 1983

Mr. ARMSTRONG introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To provide for confirmation of the repayment contract of the Dallas Creek participating project of the Upper Colorado storage project.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in accordance with the repayment contract for the Dallas Creek participating project of the Upper Colorado River storage project, entered into January 14, 1977, and entitled "Re-Payment Contract Between the United States of America and the Tri-County Water Conservancy District", the portion of the costs of such project, including interest on construction costs, allocated to municipal and industrial use which exceeds $38,000,000 shall not be reimbursable.

II

98TH CONGRESS
1ST SESSION

S.805

To amend the Act of July 28, 1954 (68 Stat. 575), to authorize the Secretary of the Interior to construct, operate, and maintain the Santa Margarita project, California, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 14, 1983

Mr. WILSON introduced the following bill; which was referred to the Committee on Energy and Natural Resources

---

A BILL

To amend the Act of July 28, 1954 (68 Stat. 575), to authorize the Secretary of the Interior to construct, operate, and maintain the Santa Margarita project, California, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act of July 28, 1954 (68 Stat. 575), is amended by striking all after the enacting clause and inserting the following:

"SECTION 1. (a) The Secretary of the Interior is authorized to construct, operate, and maintain the Santa Margarita project, California, in accordance with the Federal reclama-

tion laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto) and in accordance with the plan set out in the report of the Secretary on the project, including any changes that may be required by studies in progress. The principal features of the project shall consist of Fallbrook and DeLuz Dams and Reservoirs, pipelines, regulation facilities, or other facilities required to provide water to the Fallbrook Public Utility District and the Marine Corps base at Camp Pendleton.

"(b) Appropriation of construction funds is contingent upon a secretarial determination of economic justification and environmental acceptability based on such studies. Such determination shall include an estimate of the construction costs of the Santa Margarita project. Any modifications of, omissions from, or additions to the plan for the purpose of furnishing a supplemental municipal and industrial water supply, supplemental irrigation water supply, flood control, regulation of imported water, recreation, or fish and wildlife enhancement shall be implemented only with the concurrence of the Secretary of the Navy. Repayment of reimbursable construction costs by the Fallbrook Public Utility District or other qualified entity or entities shall be on such terms and conditions as the Secretary of the Interior may determine, notwithstanding any other provision of law to the contrary. The interest rate used for computing interest during con-

struction and interest on the unpaid balance of the reimbursable costs of the project shall be determined by the Secretary of the Treasury, as of the beginning of the fiscal year in which construction of the unit is commenced, on the basis of the computed average interest rate payable by the Treasury upon its outstanding marketable public obligations which are neither due nor callable for fifteen years from date of issue.

"SEC. 2. The Secretary, prior to commencement of construction, shall enter into contracts with the Department of the Navy, the Fallbrook Public Utility District, or any other qualified entity or entities for delivery of water and for repayment of the reimbursable construction costs. Construction, operation, maintenance, and replacement costs of facilities and portions of facilities allocated to flood control and to the furnishing of a water supply to the Marine Corps base at Camp Pendleton shall be borne by the Department of the Navy.

"SEC. 3. In accordance with section 2481 of title 10, United States Code, proceeds from the sale of any surplus project water entitled to the Department of the Navy shall be credited to the Department of the Navy appropriation currently available for the supply of such water.

"SEC. 4. There is authorized to be appropriated the sum included in the secretarial determination of economic justification and environmental acceptance, referred to in section 1

of this Act, as the project construction cost, plus or minus such amounts as may be justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indices applicable to the types of construction involved herein, along with such additional sums as may be required for operation and maintenance of the project.".

II

98TH CONGRESS
1ST SESSION

S. 818

To authorize the replacement of existing pump casings in the Robert B. Griffith water project pumping plants 1A and 2A, (formerly the Southern Nevada water project) and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 16 (legislative day, MARCH 14), 1983

Mr. LAXALT (for himself and Mr. HECHT) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To authorize the replacement of existing pump casings in the Robert B. Griffith water project pumping plants 1A and 2A, (formerly the Southern Nevada water project) and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is authorized to procure, and provide for the installation of, twelve new stainless steel casings and minor appurtenant parts to replace twelve existing cast steel pump casings in pumping plants 1A and 2A of the Robert B. Griffith water project, first stage.

SEC. 2. The Secretary is hereby authorized to negotiate with qualified manufacturers for the procurement of the new stainless replacement casings.

SEC. 3. Costs incurred in the procurement of the twelve pump casings and minor appurtenant parts shall be borne by the United States and shall be nonreimbursable and nonreturnable. The State of Nevada shall bear 100 per centum of the costs of installing the twelve stainless steel casings and minor appurtenant parts, all in a manner satisfactory to the Secretary.

SEC. 4. There is hereby authorized to be appropriated beginning October 1, 1983, for procurement of twelve stainless steel pump casings and minor appurtenant parts for the Robert B. Griffith water project pumping plants 1A and 2A the sum of $1,500,000 (July 1980 price levels), plus or minus such amounts, if any, as may be justified by reason of changes in procurement costs as indicated by engineering cost indexes applicable to the type of procurement involved: *Provided,* That except as otherwise may be required by existing contracts, the United States shall incur no further liability with respect to the twelve pumps in pumping plants 1A and 2A of the Robert B. Griffith water project, first stage and no further expenditures or actions by the United States with respect to those pumps are either expressly or impliedly authorized by this Act.

STATEMENT

by

SENATOR J. JAMES EXON

Feasibility Study Legislation

for the

Prairie Bend Project

May 2, 1983

Before the
Energy and Natural Resources
Subcommittee on Water and Power

Mr. Chairman, I appreciate this opportunity to discuss my support for the feasibility study authorization for the Prairie Bend Unit included in the bill S. 622. I have introduced a separate bill, S. 681, which would accomplish the same result for Prairie Bend.

This measure was introduced in the 97th Congress and was included in S. 2443, which passed the Senate on October 1, 1982. This bill was amended by the House and returned to the Senate as H. R. 5536 on December 18, 1982. The bill, however, was not acted upon before the 97th Congress had adjourned. It is evident that support exists for this study in both the House and the Senate.

One issue of controversy which has tangled the Prairie Bend Study authorization in continual delays has been the issue of cost-sharing. The local sponsors of the project in Nebraska have expressed an interest and willingness to cost-share through financial and in-kind services.

While disagreement exists on the Committee as to the appropriateness of cost-sharing, this is not an issue for this

Nebraska project and I would hope that the Committee will not hamstring this study with a controversy that is a non-issue for this project.

This feasibility study is important in assisting the State of Nebraska in determining an appropriate response to the critical water needs of the Central Platte Valley. Preliminary investigations have indicated that, due to declining groundwater problems and increasing energy costs to operate irrigation systems, the area of the Central Platte Valley will be forced to revert to dryland farming over the next 25 to 35 years.

The authorization of this feasibility study will provide the State of Nebraska with information to determine whether a multipurpose project will best address the problems of this area of my state.

Although a 1979 appraisal study by the Bureau of Reclamation reviewed the possibility of a diversion project utilizing a storage reservoir, groundwater recharge was also briefly examined. The Bureau noted that a "conjunctive use" project "holds the greatest promise of meeting the needs of the Prairie Bend Unit and minimizing any detrimental effect on the environment."

I have included a copy of that 1979 report entitled "Prairie Bend Unit Backup Data" for the Committee's review. The Committee may consider the need for specific instructions to the Bureau to examine this possible alternative during the study process.

In addition, concerns have been expressed regarding the impact of project development on the existing wildlife habitat. Although the current language in both S. 622 and S. 681 requires

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that the Bureau report on "any effects the proposed project may have on wildlife habitat, including habitat of the sandhill crane and the endangered whooping crane," concerns have been voiced that this language may be inadequate.

It has been suggested that this language only requires the Bureau to report on what the project will do to the wildlife habitat important to the endangered cranes on the Platte River. Further language may be required to instruct the Bureau to integrate an adequate management plan as a part of the project. Local support exists for maintaining the critical habitat needs of the cranes in this area which has been both nationally and internationally recognized as a significant habitat region.

Here again, the Committee may consider the need for specific instructions to the Bureau regarding this matter. Rather than report on what the project does to the cranes, the Bureau should provide for a project which considers this problem from the beginning and avoids the future prospect of litigation.

I appreciate the Committee's consideration of the foregoing comments and suggestions.

Thank you.

PRAIRIE BEND UNIT
BACKUP DATA
DECEMBER 1979

SUMMARY AND CONCLUSION

The purpose of this study is to assess the need for the Prairie Bend Unit and to determine if feasibility studies are warranted. This study was conducted as a part of, and during the initial stages of, the Platte River Basin Study. Certain results of that study would be beneficial in determining the feasibility of the Prairie Bend Unit, such as availability of Platte River water and definition of the hydrologic parameters affecting the critical habitat area. These were not available at the time this study was conducted. It should also be noted that the USGS is conducting a ground-water model study of the Central Platte area which includes the Prairie Bend area. Again, at the time this study was conducted, results of the USGS study were not available. This study was therefore based on results from the Platte Level B studies and other currently available data. Also, no attempt was made to determine the environmental effects of the Prairie Bend Unit on the Platte River.

As of 1978 some 87,000 acres were under irrigation in the Prairie Bend area. This represents 86 percent of the 101,600 acres determined to be arable. Since the fall of 1952, ground-water level declines of 5 to more than 10 feet have occurred over the area. Results of the Platte Level B studies indicate that by the year 2020 declines of 20-60 feet will occur. This will result in dewatering a substantial portion of the shallow Pleistocene sand and gravel aquifers and the drying up of some 50 percent of the wells pumping from that aquifer. As of 1978 there were 1,875 wells registered in the Prairie Bend area of which 80 percent were pumping entirely from the shallow Pleistocene aquifer and 20 percent also penetrate the deeper Ogallala formation. Wells pumping from the Pleistocene sands and gravels have an average depth of 65 feet and an average pump lift of 45 feet. Wells pumping from the Ogallala have an average depth of 200 feet and an average lift of 130 feet.

By the year 2020 it is estimated that those wells which can obtain a supply from the sands and gravels will have an average lift of 60 feet and those pumping from the Ogallala will have an average lift of 170 feet.

Also, as a result of the predicted year 2020 ground-water level decline, some 8,000 irrigated acres will revert to dryland. This results from dewatering the shallow sands and gravel aquifers in those areas where the underlying Ogallala formation is absent or too thin to provide an adequate yield for irrigation purposes.

Water budget studies indicate that ultimately some 28,000 acres of land without a reliable water supply for irrigation purposes.

Additional problems resulting from the predicted water table decline would include increased degradation of ground-water quality and loss of wet meadow areas north of and adjacent to the Platte. Nitrate levels in parts of the study area already exceed safe drinking water standards of 10 mg/l.

Water budget analysis of the groundwater system indicate that some 30,000 to 50,000 acrefeet of water will be needed within the study area on an average annual basis to balance ground-water use and provide an adequate water supply for full development.

The amount of water finally needed will be dependent upon the effect of ground-water pumping outside of the project area and on the ground-water levels to be maintained in the project area.

Operation studies were conducted for a 32,000 acre project utilizing a 300 ft^3/s diversion from the Platte River and a 67,800 acre-feet storage reservoir. The available water supply was assumed to be the Platte Level B 2020 condition flow with the high level of development which averages some 370,000 acre-feet per year. Study results indicate that there is an adequate water supply to meet the needs of the Prairie Bend Unit.

Ground-water recharge, through the use of ponds and or ditches, was considered as an alternative; however, permeability tests indicate that the ponds required to provide the necessary recharge would be impractical. While not specifically studied, a conjunctive use project which utilizes wells in combination with gravity service would appear to hold the most promise for efficient use of the available resources. Such a plan would offer the greatest flexibility to managing the ground-water system as a long-term storage reservoir and provide a means to reduce the impact of the project on the critical habitat area.

The lands and hydrology studies show that 91,000 acres of land with irrigation suitability would benefit in varying amounts from the development of the Prairie Bend Unit. The plan would provide direct surface water service to 32,000 acres of land. Operation of the division would provide a sustained ground-water supply for the development of an additional 6,000 acres by private investment. For benefit computation purposes, the 91,000 acres benefiting from project development, 38,000 acres are considered to be nonirrigated or equivalent dryland, and 53,000 acres are considered to be privately irrigated from the ground water. With the project, the 53,000 acres of irrigated lands with a sustained water supply will benefit from savings in pumping costs. A benefit to cost ratio of 1.67:1 resulted from the analyses.

A cursory review of the potential payment capacity of the full service lands results in an estimated range of $25 to $30 per acre. In addition, these irrigated lands with a sustained ground-water supply, some 53,000 acres, will benefit from savings in pumping costs related to the higher ground-water levels with the project. Means for obtaining an equitable share of repayment from landowners who receive project service, and those who benefit only from savings in pumping costs, will need to be explored in the feasibility studies. There appears to be a basis for this type of assessment in the Nebraska laws dealing with the purposes and authority of Natural Resources Districts.

Feasibility studies of the Prairie Bend Unit appear to be justified on the basis of need and probable economic feasibility. Feasibility studies will require mathematical modeling of the ground-water system. The studies will require that an area larger than the proposed project area be studied in order to determine the effect of ground-water pumping in adjacent areas on the project area.

HYDROLOGY

HISTORIC IRRIGATION DEVELOPMENT

Irrigated acreage in the Prairie Bend area was reported by Lugn and Wenzel (USGS WSP 779) to be some 10,700 acres in 1931.

By 1946 (figure 1), the acreage had increased to 51,000 as determined by the Lower Platte River Basin Report and by 1970 (figure 2), the Mid-State Division studies found some 71,400 acres irrigated.

Using ASCS records for Hall County (figure 3), it is estimated that some 87,000 acres were irrigated in 1978. From well registration data there are 1,875 registered irrigation wells in the Pairie Bend area (figure 4).

Total arable acres is 101,600 acres (figure 5). For the purpose of this study it was assumed that under full development, 90 percent of the arable acreage, or 91,000 acres, would be irrigated in any given year.

HISTORIC AND PREDICTED FUTURE GROUND-WATER LEVEL CHANGES

Since the fall of 1952, ground-water level declines of 5 feet to over 10 feet have been experienced in the Prairie Bend area. These are shown in figure 8. Changes for the last 10-year period (1969-1978) are shown in figure 9.

The average change in ground-water levels from 1931 through 1978 are shown as a composite hydrograph in figure 10.

Fall water level data for 57 observation wells in or adjacent to the Prairie Bend Unit are shown in Appendix A. Appendix A also shows the annual changes in water levels of the 57 wells. Correlating the average groundwater level changes for the period 1969-1978 with the average precipitation at Kearney, Grand Island and Ravenna (table 1), indicates that with precipitation equal to the 1931-1978 mean, ground-water levels would be declining at a rate of 0.56 feet per year.

Predicted ground-water level declines from the Platte Level B Studies for the 2020 Beta condition are shown in figure 11. It

should be noted that the year 2020 water level declines predicted by the Platte Level B Studies do not represent steady state conditions. Declines greater than those shown are expected to occur after the year 2020. Because steady-state conditions were not modeled, the maximum decline which may be expected to occur is not known.

NEED FOR ADDITIONAL WATER

A comparison of the predicted future ground-water level declines with a saturated thickness map of the Wisconsin sands and gravels (figure 12), show that a substantial portion of this shallow aquifer will be dewatered as shown in figure 13. Where the shallow sand and gravel aquifer is more than 50 percent dewatered, wells pumping from that aquifer will need to be deepened into the underlying Ogallala aquifer. Of the 1,875 wells registered in the Prairie Bend area (figure 4), 1,416 have sufficient data to indicate the source of supply. Wells numbering 1,115 (figure 14), are pumping from the shallow sand and gravel aquifer and 301 wells (figure 15), are pumping from the Ogallala aquifer.

Comparison of figure 13 with the map of wells pumping from the shallow aquifer (figure 14), shows some 620 wells or 50 percent of the wells pumping from the shallow aquifer will be dewatered.

Also, comparison of the dewatered shallow aquifer (figure 13), with a thickness map of the Ogallala formation (figure 16), shows two areas where the Ogallala is either absent or too thin to provide an adequate yield for irrigation purposes. These are shown on figure 17. The area of potential yield less than 250 gpm was determined as those areas where the Ogallala was less than 80 feet thick or the sand and gravel less than 15 feet thick. The potential yield area of 250-500 gpm was defined as those areas where the Ogallala was less than 110 feet thick or the saturated sand and gravels less than 20 feet thick. This determination was made using figure 18, which shows the relation between yield and saturated thickness for the two formations.

A comparison of the potential yield area of less than 250 gpm (figure 17), with irrigated acreage maps, indicates that some 8,000-10,000 acres will not have an adequate source of water with the 2020 Beta condition drawdown.

Figure 19 shows the geologic section between range 11 and 12 west which passes through the towns of Cairo and Wood River. Also shown are the historic 1968 water table and the predicted 2020 Beta water table.

ALTERNATE PLANS

The plan presented here is only one of several possible plans and is not necessarily presumed to be the best. Obviously the best plan will consider the needs of the Prairie Bend Unit in conjunction with the environmental needs. While not specifically studied, conjunctive use holds the greatest promise of meeting the needs of the Prairie Bend Unit and minimizing any detrimental effect to the environment or even provide some benefits.

Planned conjunctive use of surface and ground water through the use of project wells would provide the means to utilize the aquifer as a long-term storage reservoir. Assuming a 22 percent storage coefficient, an average water level change of 10 feet over the project area will provide some 300,000 acre-feet of storage. This opens the possibility to store flows that are surplus or not critical to the habitat area and avoid or minimize diversion of critical flows. This assumes that there will be sufficient flow that is surplus or not critical to the habitat area to satisfy the needs of the Prairie Bend Unit. The use of project wells also would provide the means to recover ground water and seepage losses that would otherwise be lost or of no benefit to the project and thus reduce the demand on the flow of the Platte.

ENVIRONMENTAL EFFECTS

As discussed earlier, this study does not attempt to determine what effect the project may have on the critical habitat area of the Platte. While the project will cause some reduction in the flow of the Platte, its effect on the critical habitat area cannot be determined until the future flows and hydrologic parameters controlling the habitat area are defined.

The project is expected to provide environmental benefits in two specific areas, both of which are related to the predicted ground-water level decline. Currently, ground-water quality is deteriorating in the Prairie Bend area. Of particular concern is the nitrate problems. These problems can be expected to increase with declining water levels. Importation of nitrate-free water will tend to reduce nitrate levels in the ground water. In addition, maintenance of water levels will assure continued flushing of the aquifer and avoid concentrating undesirable salts.

declining ground-water levels will also cause the loss of wet meadow areas north of the Platte River and in the Prairie Creek area east of the town of Cairo. Recharge of the aquifer by the project can be expected to maintain or even enhance the wet meadow area.

POTENTIAL ENERGY SAVINGS

As of 1978, 87,000 acres in the Prairie Pond Unit, of which 80 percent were irrigated from shallow wells having an average lift of 45 feet and 20 percent from deep wells having an average lift of 130 feet. Assuming a farm delivery requirement of 1.35 ac-ft/acre and a pumping plant efficiency of 70 percent, the present annual energy requirement to lift water to the land surface is:

1.35 ac-ft/acre x 130 ft x 17,400 ac x 1.025 kWh/ac-ft ÷ 70 =
309,000 kWh

1.35 ac-ft/acre x 45 ft x 69,600 ac x 1.025 kWh/ac-ft ÷ 70 =
6,191,000 kWh

6,300,000 kWh/Yr

or 72.4 kWh per acre.

For future conditions without the project, assume that only 53,000 acres will be irrigated and that one half of the shallow wells will be replaced by deep wells. The estimated pump lift with the 2020 Beta water level decline is 170 feet for deep wells and 60 feet for shallow wells. The annual energy requirement to lift water to the land surface is:

1.35 ac-ft/ac x 170 ft x 31,800 ac x 1.025 kWh/ac ÷ 70 =
10,687,000 kWh/year

1.35/ac-ft/ac x 60 ft x 21,200 ac x 1.025 kWh/ac-ft ÷ 70 =
2,514,000 kWh/year

13,201,000 kWh/year

or 249.1 kWh7acre.

This represents a three-fold increase in irrigation energy consumption per acre irrigated.

With some type of project, several possibilities exist. The least optimistic is to assume 91,000 acres irrigated from wells and water levels maintained at their present levels by some recharge plan.

This would require an energy usage similar to current condition of 72.4 kWh/acre or a total annual energy consumption of 6,590,000 kWh.

A most optimistic plan would assume that 32,000 acres are served surface water and the remaining 59,000 acres served by shallow wells having an average lift of 35 feet.

This would require a total annual energy usage of:

1.35 ac-ft/ac x 35 ft x 59,000 ac x 1.025 kWh/ac-ft/ac ÷ 70 =
4,082,000 kWh/yr

or 44.9 kWh/acre irrigated.

Overall, the project has the potential of sustaining irrigation on 91,000 acres vs. 53,000 acres without the project and at the same time conserving some 6 to 9 million kWh of energy annually.

DESIGNS AND ESTIMATES

Description of Plan

The proposed project is located in Hall and Buffalo counties in south-central Nebraska and would provide irrigation water to 32,000 acres of land lying wholly within the Platte River valley.

The diversion would be from the middle channel of the Platte River by a diversion structure located about three miles east of Kearney, Nebraska. Water would be conveyed by the 330 ft^3/s capacity supply canal 21 miles to the proposed reservoir site on Prairie Creek approximately 5 miles north of Shelton, Nebraska. The Prairie Reservoir would have an active irrigation conservation capacity of 64,650 acre-feet, a flood control conservation capacity of 4,000 acre-feet, a surcharge of about 14,600 acre-feet, inactive conservation of 3,200 acre-feet, and dead storage of about 600 acre-feet.

Distribution canals totaling 59 miles and ranging in capacity from 580 to 9 ft^3/s would convey irrigation water to the land.

Design Considerations

The design flood values for the diversion works and the Prairie Reservoir were obtained from the hydrology section and have the following peaks and volumes respectively:

	Peak	Volume
Platte River @ diversion:	45,000 ft^3/s	-
Prairie Creek @ damsite	76,000 ft^3/s	28,000 acre-feet

Sediment inflow to Prairie Reservoir would be about 1 percent of the volume in 100 years.

Canals other than the supply canal were sized using 0.3 foot maximum farm delivery in a 10-day period. The system was not lined. Waterways were aligned along legal subdivision lines as nearly as practicable.

A settling basin would be included in the initial reach of the supply canal.

Dams would be of rolled earth with 30-foot top width. Upstream slope was assumed at 3:1 and the downstream slope was assumed at 2:1. Riprap was assumed for upstream slope protection.

Cost Estimate

All estimates were either indexed to, or priced at, April 1979 price levels. The annual O&M estimate was developed from averages of the Kansas River projects operating units and adjusted to include funds for water scheduling.

Construction costs for the Prairie Dam structure were based on quantity estimates developed in a 1971 study of the same reservoir area for the Mid-State Division and April 1979 unit prices. The spillway and outlet works were priced by indexing the field costs from that 1971 study to April 1979.

The book "Design of Small Dams" was used to determine the type and quantities of the diversion structure. Unit costs at April 1979 price levels were then applied to those quantities.

Canal earthwork quantities were developed from layouts on USGS quadrangle maps using grades and centerline profiles developed from these maps. Canal structures protective works and road bridges were located and priced from typical drawings of standard structures. April 1979 prices were applied to these features.

Drains were not considered necessary as road ditches and existing drains appear to be adequate for drainage in this area.

ECONOMIC EVALUATION
December 1979

This study's main objective is to develop the data necessary to determine if further study is warranted.

The lands and hydrology studies show that 91,000 acres of land with irrigation suitability would benefit in varying amounts from the development of the Prairie Bend Unit. The plan would provide direct surface water service to 32,000 acres of land. Operation of the division would provide a sustained ground water supply for the development of an additional 6,000 acres by private investment. For benefit computation purposes, of the 91,000 acres benefiting from project development, 38,000 acres are considered to be nonirrigated or equivalent dryland, and 53,000 acres are considered to be privately irrigated from the ground water. With the project, the 53,000 acres of irrigated lands with a sustained water supply will benefit from savings in pumping costs.

Exhibit 1 shows the 1979 acreages and depicts the future changes in irrigated acreage that would be expected to occur "without" and "with" development of the Prairie Bend Unit if long-term sustained use of the ground-water aquifer is to be perpetuated.

Irrigation Benefits

Benefits expected to result from irrigation development of the project were based on the North Loup Division farm budgets of January 1979. The private pump budgets were adjusted to represent the pumping conditions and the energy charges of the area. The costs related the size of pumps and motors and depth of wells were taken into account to represent the "with" and "without" project conditions.

The two projects, Prairie Bend and North Loup Division, are within the same geographic limits of Nebraska, having similar farm environment and sharing the same major trade and community centers. The North Loup farm budget studies are based on the projected crop yields for the year 2010, using yield data compiled from the Platte River Basin Level "B" Study. Prices used in the farm budgets study are based on the guideline, "Agricultural Price Standards," published by the Water Resources Council in October 1978. Prices not given in these standards were obtained from local primary and secondary sources for the 1977 annual prices or adjusted by the appropriate indexes.

For items of production purchased from sectors other than agricultural, normal prices paid in Nebraska were used. The following tabulation shows some of the prices paid as used in the farm budgets.

Prices Paid		
Tractor (70-79 hp)		$15,080
Combine with cornhead		43,290
Interest Rate		
Fixed investment	5.75 percent	
Operating capital	8.4 percent	
Taxes	80 mills	

Prices paid for crop and livestock production and services for this analysis are shown in Table 1.

Savings in Pumping Costs

Of the 87,000 acres that are currently irrigated, the ground-water supply is adequate to irrigate 53,000 acres indefinitely but from greater pumping depths than at present. Accompanying the decline of the ground water, the irrigators of these lands will be confronted with high investment costs for replacement installations and higher energy costs for the deeper pumping depths.

Recognizing there would be financial savings shared by these 53,000 acres of privately irrigated land due to the shallower pumping depths with the project, two farm budget analyses were prepared to derive the savings in pump costs. Project development would lessen the pumping depth which would have an effect on the depth of well, size of motor and pump, and the required energy. One budget analysis represents pumping conditions with the project, and the second budget analysis represents pumping conditions without the project. The difference in net farm income was considered an annual savings in pumping costs for the 53,000 acres.

The Prairie Bend Unit will provide a full water supply for 38,000 acres of land of which 34,000 are currently irrigated and 4,000 acres are suitable but undeveloped. The Prairie Bend Unit will serve 32,000 of the 38,000 acres from project service and will also provide ground-water recharge for 6,000 acres by private investment that would not have a water supply on a sustained basis without the project development.

Benefits for the 38,000 acres of full service lands are based on three farm budgets. One budget depicts expected costs and returns for lands to receive project service by alternate gravity application of the water supply. The second budget reflects private development costs for wells, pumps, and motors with irrigation by gravity methods and for conditions prevailing with project development. The third budget depicts the costs and returns expected without the project under nonirrigated conditions.

A summary of the increased net farm income and the savings in pump costs are shown as follows:

PRAIRIE REED UNIT

			Annual Benefits
Project Service Area			
Dryland		32,000 Ac.	$ 6,968,000
Net Farm Income			
Gravity Farm Budget	$45,708		
Dryland Farm Budget	6,117		
Irr. Dif/170 Ac.	$39,591		
Benefits/Ac.	232.89		
Adj. Factor (7-1/8%)	.935		
Adj. Irr Ben/Ac	$217.75		
Private Ground Water Development			
Dryland Equivalent (38,000-32,000 Ac.)		6,000 Ac.	$ 1,222,000
Net Farm Income			
Pump Farm Budget	$43,143		
Dryland Farm Budget	6,117		
Irr. Diff. (170 Ac.)	$37,026		
Benefits/Ac.	$217.80		
7-1/8%-3 Yr. Adj.	.935		
Adj. Irr. Ben/Ac.	$203.64		
Savings in Pumping Cost (91,000-39,000 ac)		53,000 Ac.	$ 507.000
Net Farm Income			
Shallow Well Budget	$43,143		
Deep Well Budget	41,517		
Difference	1,626		
Saving/Ac.	$9.56		
Total Direct Irrigation Benefit			$ 8,697,000

A summary of the benefit-cost analysis is shown as follows:

Benefit-Cost Analysis

Item		Amount ($1,000's)
Investment		
Total project cost		$ 69,740
Less preauthorization investigation 1/	(-)	881
Interest during construction 2/		10,573
Net investment		$ 68,432
Annual costs		
Equivalent of investment (.07132)		4,881
OM&R ($10.00/Acre)		320
Total		5,201
Annual benefits		
Irrigation		
Direct		$ 8,097
Recreation		na
Fish and wildlife		na
Total		$ 8,097
Benefit-cost ratios		
Direct benefits only		1.67
Total benefits		

1/ Includes 1½ percent of the total project cost.

2/ Same relationship as i.d.c. to project cost for the North Loup Division in fiscal year 1980 adjusted from 3¼ percent interest to 7-1/8 percent.

$$\frac{11,370,000}{140,490,000} \times \frac{7\text{-}1/8}{3\text{-}1/4} = .18$$

OTHER SOCIAL EFFECTS

Benefits for flood control, fishery and recreation purposes were not considered in the economic analysis of the Prairie Bend Unit. The Nebraska Mid-State Division plan of development included a Prairie Dam and Reservoir at the same site location as the dam and reservoir needed for the Prairie Bend Unit. Other government agencies conducted studies for the Mid-State Division and recognized benefits associated with the development of the Prairie Dam and Reservoir.

Benefits from flood control, fishery and recreation were not included in the economic analysis because previous studies were not developed with the dam and reservoir being the only feature in the plan of development. Also the unit values for deriving total benefits has changed considerable since the studies were made.

The benefits from these three purposes will have a contributing effect in support of project development but most likely their support will be minor. It is recommended that flood control, fish and wildlife and recreation purposes, as they relate to the development of the Prairie Bend Unit, be studied during a feasibility investigation.

A cursory review of the potential payment capacity of the full service lands results in an estimated range of $25 to $30 per acre. In addition, those irrigated lands with a sustained ground-water supply, some 53,000 acres, will benefit from savings in pumping costs related to the higher ground-water levels with the project. Means for obtaining an equitable share of repayment from landowners who receive project service and those who benefit only from savings in pumping costs will need to be explored in the feasibility studies.

STATEMENT

by

SENATOR EDWARD ZORINSKY

for the

Prairie Bend Project

May 2, 1983

Before the
Energy and Natural Resources
Subcommittee on Water and Power

Mr. Chairman, I am pleased to inform you of my particular interest and support for the section of S. 622 which authorizes funding for a feasibility study for the Prairie Bend Unit. As you know, I am cosponsoring S. 681, a separate bill which would also provide funding for this study.

I am gratified to know that the Committee will be moving ahead expeditiously in considering this and other study proposals, for in my view, we are already a year behind where we would all like to be with regard to Prairie Bend. To review, both the House of Representatives and the Senate agreed during the 97th Congress that there was a sufficient indication of need for water development in the central Platte River region to merit further investigation by the Bureau of Reclamation into such development, and both the House and the Senate approved legislation to provide funds for a study. The House version approved funds only for the Prairie Bend study whereas the Senate version approved funds for this study and thirteen other proposals. The House subsequently agreed to

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the thirteen additions but included a 25% cost-sharing provision before sending the measure back to the Senate. At this point the bill went the way of many other bills that were lost in the logjam of legislation toward the end of the 97th Congress, failing to receive further consideration due to a lack of time. Of course, the result was that through unfortunate circumstances the Prairie Bend study remained unfunded even though both Houses of Congress independently concluded that the study was worthy of our support.

Mr. Chairman, we have already agreed once that the Senate should authorize funds for a Prairie Bend feasibility study, and the factors supporting that decision have not changed, so I would like to limit my remarks to a brief review of the primary reasons prompting my support for the study. The economy of the area to be considered within the scope of the study is heavily dependent on agriculture. When properly irrigated, the land in the central Platte River Valley is as productive as any in the region. However, there is substantial data to show that the source of irrigation water, the local groundwater supply, is declining and will continue to decline over time. Large groundwater declines are anticipated well into the next century to the extent that, unless preventative measures are taken, thousands of acres of irrigated land will revert to dryland farming. When we consider the future needs of a growing world population and compare them to the substantial annual loss of productive farmland to urban development, as well as the loss of productivity on remaining farmland due to an alarmingly high rate of topsoil erosion throughout the nation,

it becomes clear that we should zealously protect the full productive capacity of our remaining farmland and be prepared to take positive steps to this end when such action is warranted.

The purpose of this study will be to assess the factors affecting the Prairie Bend situation, determine whether any water development is advisable, and if so, what sort of project should be used. I should emphasize that I am advocating funds only for a study at this time. I feel that an intelligent, informed decision on whether to proceed with any particular project cannot be made until the Bureau of Reclamation can make its assessment and report its findings and conclusions. I will make no specific recommendations regarding the scope or direction of the Bureau's inquiry other than that the Bureau should consider all the facts and circumstances affecting the Prairie Bend area and weigh the reasonable options at its disposal. The language in S. 681 and S. 622 allows the Bureau sufficient latitude to conduct a thorough study.

Finally, it is my hope that the issue of cost-sharing will not continue to be a cause for delay of further action on the Prairie Bend study authorization. In many cases, local support for such a study, clearly an important factor for your consideration, might be greatly affected by the suggestion of cost-sharing in the authorizing legislation. However, such is not the case here, for the local sponsors of the project have gone on record to express their willingness to participate in a cost-sharing agreement. It has been shown that local support for the Prairie Bend study will continue regardless of cost-sharing. Certainly the general issue of cost-sharing will be a subject for lively debate in the 98th Congress, but I urge my distinguished colleages to agree that cost-sharing is not a determinant issue in this instance and that the study need not be delayed further by somehow linking Prairie Bend with the discussion of cost-sharing.

Mr. Chairman, I thank you and I will appreciate the Committee's consideration of these comments.

Statement of Senator Gary Hart
May 2, 1983
Before the Subcommittee on Water and Power
Committee on Energy and Natural Resources

Mr. Chairman, thank you for the opportunity to appear today to testify on S. 662, legislation cosponsored by Senator Armstrong and myself.

As you know, S. 662 provides for confirmation of the repayment contract fcr the Dallas Creek participating Project of the Colorado River Storage Project. The repayment contract between the United States and the Tri-County Water Conservancy District, the local government sponsor of the Dallas Creek Project, limits the district's repayment obligation to $38 million for the municipal and industrial water supply of the Dallas Creek Project. This limit on the district's repayment obligation is different from the usual repayment contract's requirement that water users repay the entire amount of the construction costs allocated to them, even if this requires a renegotiation of the original contract terms. The limit in this case was an item explicitly negotiated between the Bureau of Reclamation and the conservancy district, and was accepted by the Bureau as a condition of the contract between the United States and the district.

After the repayment contract was negotiated and executed, the Teton Dam collapse prompted the Bureau to redesign the Dallas Creek project to add new structual guarantees of dam safety. Without these changes in project design and the delays prompted by them, the portion of the project costs allocated to the Tri-County District would not have exceeded the $38 million limit on the district's repayment obligation. Unfortunately, because of these design changes

and delays alone, the costs of the project are now expected to reach as high as $76 million.

Although the repayment contract makes it clear conservancy district shall not be responsible for any of the construction costs beyond the $38 million, there is a real possibility that further construction of the project may be delayed or abandoned unless the conservancy district renegotiates the contract and agrees to repay the entire construction costs. This would clearly be in violation of the contractual obligations of the United States. Further, it would be unfair to all parties, since stopping construction would involve the waste of the money and efforts which have already been committed to completion of the project and would prevent pressing local water needs from being met.

It is important to note this legislation merely reaffirms terms of the original repayment contract rather than changing its terms. An identical bill passed by the Subcommittee last year had the support of the Administration, the Governor of Colorado, both Senator Armstrong and myself, Congressman Kogovsek and all other interested parties because of the significant progress already made on the project and its need in Southwestern Colorado.

Mr. Chairman, time is once again of the essence in resolving this matter. Subsequent witnesses today, representing the Governor of Colorado and the Tri-County Water Conservancy District, will demonstrate the repayment contract fixes $38 million as the absolute ceiling on the district's repayment obligation for the

municipal and industrial water supply of the Dallas Creek project. Tri-County owes no larger sum.

The legislation before the Subcommittee today -- S. 662 -- will remove all doubt as to the limit of Tri-County's obligation. Fairness and equity, let alone the United States clear contractual agreement, speak persuasively for prompt and favorable action on this legislation. As you will recall, the Committee approved and reported an identical bill late in the 97th session. Unfortunately, the Senate schedule did not permit consideration prior to adjournment.

Mr. Chairman, other witnesses will speak in greater detail about this legislation and the Dallas Creek Project and I commend their testimony and the compelling case they will present for the prompt passage of this legislation.

I appreciate this opportunity to appear before the Subcommittee and thank you for expeditious scheduling of this hearing.

# # #

STATEMENT BY
SENATOR WILLIAM L. ARMSTRONG
ON S. ~~752~~ 662
BEFORE THE
WATER AND POWER SUBCOMMITTEE OF THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
MAY 2, 1983

Mr. Chairman I would like to thank the Committee for moving so quickly to consider S. ~~752~~ 662, which I introduced in March to reaffirm the repayment contract of the Dallas Creek Participating Project of the Upper Colorado Storage Project.

Other witnesses will testify in greater detail to the history of the problem this bill addresses, but I would like to rehearse the basic facts briefly.

The repayment contract between the United States and the Tri-County Water Conservancy District caps the repayment obligation of local water users at $38 million, for 21,000 acre-feet of municipal and industrial water. The limit was expressly agreed to by the U.S. during the contract negotiations, in exchange for what at the time appeared to be a very generous escalator clause of some 35%. The Bureau of Reclamation has told my office that such an arrangement appears to be unique among existing repayment contracts and its unique status has also been verified in writing by Office of Management and Budget Director David Stockman. Any action this Committee takes on S. ~~752,~~ 662 therefore, will set no troubling precedent for repayment contracts generally.

As it turned out, however, the 35% escalator clause was not enough to cover unforeseen cost overruns. The Teton Dam failure prompted the Bureau to redesign projects then on the drawing board, including Dallas Creek;

largely due to this considerable delay, costs nearly doubled. It was in this context that I introduced S. ~~752~~ 662, to make it absolutely clear that unforeseen and unavoidable cost overruns will not be charged off against the water users of Western Colorado. What it comes down to is just this: local water users made a binding contract and they are entitled to all the benefits it provides. This bill only reaffirms that contract; it neither adds to nor detracts from it in any way.

Time is of the essence in this matter, and the effort to meet America's increasing water needs must not be delayed due to unnecessary contractual squabbles. It would not benefit the Federal Government or the affected water users to halt construction of the project. Phase I of the project has now been completed and contracts for Phase II have been let; Dallas Creek is now over half completed and the Reagan Administration's budget requests make plain that this is a high funding priority of the Bureau of Reclamation.

What I am urging, Mr. Chairman, is that this Committee reiterate the overwhelming support it demonstrated last year for this measure and send a message to water users throughout the country that the Federal Government will stand by its contractual committments. I appreciate this opportunity to testify in support of S. ~~752~~ 662 and look forward to the Committee's favorable consideration of it.

Statement of Senator
Paul Laxalt
S. 818
May 2, 1983

Dear Mr. Chairman:

I appreciate this opportunity to supply for the record my views in support of S. 818, a bill to provide for the replacement of the present casings on pumping plants 1A and 2A of the Griffith Water Project in Nevada.

This Project is supplying water to some 400,000 water users in the Las Vegas valley. Reliable pumps are a necessity to insure uninterrupted service to these consumers.

I will not recite the history of the pumps as I know that will be fully covered for the Subcommittee in other testimony to be presented. I believe the record is clear that there has been a good faith effort on the part of all parties to resolve the present cavitation deterioration through remedial efforts involving their own resources. It is now clear that there is no acceptable alternative to replacement with stainless steel, and that this material will provide the necessary strength. Remedial measures, to date, approach $1.5 million and, without replacement, can be expected to continue into the future. Replacement will cost about $1.5 million.

The Administration has been involved in preparing the pump specifications and in coping with the subsequent problems. It is my understanding that the Bureau of Reclamation supports this approach and, indeed, helped prepare this legislation. As you know, Mr. Chairman, similar legislation was passed by the Senate in the 97th Congress. The circumstances supportive of that bill have not changed but the need for action has grown. I urge the Subcommittee to act favorably on this bill and report it to the Senate floor at an early date.

Senator NICKLES. I might notify our witnesses today that we are under a little bit of a time constraint because they've scheduled some budget meetings that it's necessary for many of us to participate in. So it will be necessary for us to go fairly quickly today. I would advise everyone that their entire statements will be inserted in the record in full, and would appreciate your synopsis or summary of those remarks.

We are also pleased to have Senator Wilson with us today. I expect to discuss the bill that he's introduced.

Senator Wilson, welcome. We appreciate your interest on the Santa Margarita project and also your prodding this committee for getting it considered at this time. So any opening remarks that you have are welcome.

STATEMENT OF HON. PETE WILSON, A U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator WILSON. Thank you very much, Mr. Chairman. I am mindful of the pressures under which the subcommittee and its distinguished chairman are laboring, so I will follow your suggestion. I do have a written statement which I will submit for the record and will summarize it.

Mr. Chairman, I am very grateful to the subcommittee and to you for giving us this early hearing. As you are aware, this project has a long and complex history. It was first developed in the late forties. It was first authorized by the Congress in 1954. I won't go back over the history of some litigation that forestalled the development at an earlier time. The need exists, as it has existed for some time, but the need would appear to be greatening. As time has passed the population surrounding the Marine Corps base at Camp Pendleton has increased. There are plans now to expand the use of Camp Pendleton as a staging and training area. In short, this will achieve a water resource for which there is the broadest possible support, including the Governor of California, the Reagan administration, represented here this morning by both Mr. Chase Untermeyer, the Deputy Assistant Secretary of the Navy, General Hatch is here representing the Marine Corps. Also, the Department of the Interior is represented by Mr. Bob Broadbent, Commissioner of the Bureau of Reclamation.

There are representatives from the Fallbrook Public Utility District which will be a partner in this venture with the Bureau of Reclamation and the Marine Corps. The public utility district is making available land for the project, as is the Marine Corps. Valuable land, indicating the very high priority that they place upon this. The Secretary of the Navy, Secretary Lehman, was recently a guest of the base commander at Camp Pendleton and had an extensive tour of the base, including the area that would provide this very needed water project.

It consists really of two dams, two reservoirs, the regulating and conveying lines. The costs of this are to be shared by the Department of the Navy and the Fallbrook Utility District will make its contribution over a period of years, charging fees for the water supply it has.

This is a project that I think is going to serve both the water needs of southern California. It also is vital to provide adequate water for one of the most significant of our military installations. I need not tell the chairman the history of Camp Pendleton. It is, as in the past, the primary staging area for the training and for the actual staging of force projections by the U.S. Marine Corps into the Pacific and into the Indian Ocean, home of the First Marine Division, and a very, very important base whose role, whose mission, the Marine Corps intends to expand.

Mr. Chairman, I would be happy to answer questions. But in the interest of the committee's time I will submit this statement for the record. We, I think, have a project whose time has long since come. The only thing that I would add is that there is companion legislation. And I would commend my colleague from the 43d District, Congressman Ron Packard, who I believe—yes—is with us this morning who has introduced on the House side H.R. 1581. And this, as well as the entire Fallbrook area and the Camp Pendleton Marine Corps Base is in Congressman Packard's district. He has exhibited great leadership and I know that his testimony to you will express the keenness of his interest in this project, the high desire which his constituents have for it.

And beyond that, Mr. Chairman, I will be happy to submit to your questions. That might be a better use of your time, sir.

[The prepared statement of Senator Wilson follows:]

STATEMENT OF HON. PETE WILSON, A U.S. SENATOR FROM THE STATE OF CALIFORNIA

Mr. Chairman, it is a pleasure to appear before your subcommittee on S. 805, my bill to reauthorize the Santa Margarita Project and I wish to thank you for calling this hearing so promptly. This essential project will provide an assured water supply, badly needed flood control, recreational opportunities and fish and wildlife benefits to the community of Fallbrook, an important agricultural and residential area and to Camp Pendleton, one of our major national defense installations.

This project has had a long and complex history. First developed in the late 1940s as a single dam project, Congress authorized its construction in 1954. However, litigation over water rights then blocked further action until 1968 when a settlement between the local residents and the United States provided a physical solution to the controversy resulting in the two dam project before you today. The project was determined to be engineeringly and economically feasible in 1974 and environmental documentation was completed in 1976. These studies are now being updated. The principal features of the project shall consist of Fallbrook and DeLuz Dams and Reservoirs, pipelines, recreational facilities other facilities required to provide water to the Fallbrook Public Utility District and the Marine Corps Base at Camp Pendleton.

Support for this project is broad-based and includes the Governor of California, the Administration and many groups who will submit statements of support. I have a letter here from Governor Deukmejian of California which expresses his support for the Santa Margarita project. He believes as I do, that this proposal

will provide adequate water supplies for Southern California while preserving our natural resources. The Administration, speaking through the Departments of the Interior and the Navy, together with the Fallbrook Public Utility District are urging its approval and you will hear their representative today. The project is under the direction of the Department of Interior and is for the mutual benefit of the Marine Corps Base at Camp Pendleton and the Fallbrook Public Utility District. All participants want to hold the costs down to around $200 million and the Bureau of Reclamation is exploring ways in which to achieve this.

Specific objectives are:

1. To conserve floodflows of the Santa Margarita River system in accordance with existing water rights and permits held for the benefit of Fallbrook Public Utility District and Camp Pendleton by the Bureau of Reclamation.

2. To provide adequate storage capacity for the purchase, importation, and regulation of supplemental and emergency water supplies.

3. To provide an adequate water supply to serve existing and projected development, closely coordinated with county and local land use plans.

4. To provide flood protection in such a way as to conserve a maximum amount of water for use, rather than discharging it into the ocean.

5. To strengthen the national defense by insuring that an adequate supply of water can be made available to Camp Pendleton at all times.

6. To encourage and protect the production of high value, permanent specialty crops.

7. To promote the retention of lands proposed for long-term agricultural use in agricultural production and minimize urban sprawl and scattered urban development.

8. To encourage low-density residential development in rough terrain, and offer a range of choice of alternatives to high-density urban dwellings.

9. To provide recreational facilities, to help alleviate the present and projected deficiencies of such facilities in relation to the demand, and to diversify and strengthen the local economy in the Fallbrook area.

10. To preserve and enhance the fish, wildlife, natural vegetation, and open space of the project area, and to facilitate their use and enjoyment by people.

The Santa Margarita River is located in northern San Diego County, a region of scant and highly seasonal rainfall and represents one of the few opportunities in the entire county to develop additional local water supplies. More than 90% of the water used within the county is brought from hundreds of miles away through aqueducts from the Colorado River and Northern California and the county is currently using twice its legal entitlement to water from these aqueduct systems. Present supplies will be reduced in 1985 when the Central Arizona project commences and California loses some of its present water rights. As these aqueducts are also subject to disruption from earth movement in earthquake prone California, every opportunity to develop a secure local water supply is essential.

The Fallbrook Public Utility District and Camp Pendleton would utilize the water from the Santa Margarita project. The district serves over 16,000 residents and more than 9,000 acres of irrigated agriculture mostly avocado and citrus groves. As imported water deliveries in the future shift more to Northern California from the Colorado, lack of storage capacity in the State system increases the risk of shortages in dry years. A serious distruption in the aqueducts serving the district could have a disastrous effect on these permanent crops, not to mention the hardships on the residents.

While the community of Fallbrook has no groundwater basins and has had to rely entirely on imported water supplies, Camp Pendleton, through a very sound water conservation program utilizing reclaimed wastewater for recharging of ground water acquifers, has been self sufficient. The Administration's program to enhance use of the Base to develop its mobilization capability and increase training activities must look for new resources. The Santa Margarita River project facilities will provide an alternative source of water supply for the Marine Corps base at Camp Pendleton, the U.S. Naval Hospital, and the Naval Weapons Station, Fallbrook Annex.

This is a vital project and its construction has been delayed far too long. It will maintain an industry serving the entire nation and provide water supply and flood control to an important military installation. I urge your favorable consideration of this project.

Senator NICKLES. Thank you very much, Senator Wilson.

Congressman, did you have any comments that you wish to make?

Mr. PACKARD. No; I'll let the Senator finish.

Senator NICKLES. Thank you very much. And we appreciate your attentiveness and also your interest in this project.

Senator, was there objection to this project in the previous administration, from the Governor's office?

Senator WILSON. There was, Mr. Chairman. I can only tell you that that seems to have received a very different consideration on the part of the new administration. I have here a letter from Governor Deukmejian which I will enter into the record urging support for this project. I will quote from it briefly.

It states:

As you know, this Administration is very concerned with the future of available water in Southern California. We must all work together to bring about a solution that is fair and equitable to all regions of our state. By the same token, we are also charged with protecting our natural resources as best we can. Upon reviewing the Santa Margarita Dam Project, I believe the present proposal meets both of these mandates—adequate water supply and environmental preservation. I am impressed with the thoroughness of the planning and am pleased to give the project the whole-hearted support of our Administration.

[The letter from Governor Deukmejian follows:]

STATE OF CALIFORNIA,
GOVERNOR'S OFFICE
Sacramento, April 8, 1983.

Hon. PETE WILSON,
U.S. Senator, Dirsken State Office Building,
Washington, D.C.

DEAR SENATOR WILSON: Thank you for your efforts in support of the Santa Margarita Dam project in north San Diego County. I am familiar with the project and am pleased to give you and Congressman Packard my support for the bill's passage in the House and Senate.

As you know, this administration is very concerned with the future of available water in Southern California. We must all work together to bring about a solution that is fair and equitable to all regions of our state. By the same token, we are also charged with protecting our natural resources as best we can.

Upon reviewing the Santa Margarita Dam project I believe the present proposal meets both of these mandates, adequate water supplies and environmental preservation. I am impressed with the thoroughness of the planning and am pleased to give the project the whole-hearted support of our administration.

Again, thank you for your efforts in the Senate to help ensure a prosperous state for generations to come.

Most cordially,

GEORGE DEUKMEJIAN.

Senator WILSON. The concerns of the prior administration expressed by its secretary of resources were on environmental grounds. And I would have to say, Mr. Chairman, that I think whatever concerns have been raised in that respect have been both answered and are outweighed by the merits of the project.

There are, in addition to my own testimony, three people here from California today, Mr. Chairman, who will testify for the bill insofar as the Chair desires them to do so: Leo Maguire, he's president of the board of directors of the Fallbrook Public Utility District; Mr. Gorden Tinker, the general manager and chief engineer of the Fallbrook Public Utility District; Mr. Lin Burzell, the general manager of the San Diego County Water Authority, are all here.

All have submitted written testimony for the record. All are here to make whatever presentation the Chairman desires.

Senator NICKLES. Thank you very much, Senator Wilson. And again, I will compliment you on the persistence that you have shown in trying to get this to move legislatively. You are to be commended by your State and certainly by this region because you have been very persistent in your efforts to see that we would move forward on it.

So again, I thank you for your comments and also for your drive in trying to have us move. Thank you very much.

Senator WILSON. Thank you, sir.

Senator NICKLES. Thank you, Senator. Our next witness is the Honorable Robert Broadbent, who is Commissioner of the Bureau of Reclamation.

Senator WILSON. Thank you, Mr. Chairman.

Senator NICKLES. Commissioner, welcome again before this subcommittee. We appreciate your interest and also your willingness to allow us to group a few items together maybe to save you a little time and to save us some time, too.

So for yourself and for anyone else that's testifying on the series of bills, so we might keep some sort of order, if you might begin with 622, the feasibility study bill and then the Dallas Creek bill and the Santa Margarita bill and the Nevada pumps bill.

STATEMENT OF HON. ROBERT N. BROADBENT, COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

Mr. BROADBENT. Mr. Chairman, if I might, I'd like to submit my testimony on all of these for the record. Since the first one is the only one on which we didn't have extensive hearings last year, it's the only one that I would speak to in detail. The others are substantially the same as the testimony the previous year. We'd just like to enter the testimony for the record and then leave what time we have open for any questions you may have.

Senator NICKLES. Thank you very much.

Mr. BROADBENT. Mr. Chairman, S. 622 would authorize the Secretary of the Interior to undertake feasibility investigations in connection with 13 water resource developments. We recommend enactment of S. 622 with amendments to delete the Upper Klamath offstream storage project and to add 15 more feasibility studies.

We recommend that the Imperial Irrigation District canal lining investigation be expanded to include "system improvement." This would enable us to study various other ways of conserving water, in addition to canal lining.

In addition, we recommend that the bill be amended to include 15 more project studies, bringing the total number of studies to 27.

Also, we strongly encourage inclusion of the saline water use and disposal opportunity unit, which includes Aquatrain in S. 622. We are presently conducting preliminary studies on Aquatrain, a proposed pipeline to transport saline water and coal from the Upper Colorado River Basin to potential users in Western States. We believe that the saline water use and disposal opportunity unit could encourage joint ventures between the Federal Government and pri-

vate industry, potentially reduce the cost of saline water disposal, and utilize saline water which could otherwise not be used.

We will provide for the record specific language to implement our recommendations as well as background statements for each of the 27 investigations.

Thank you very much, Mr. Chairman.

[The prepared statements of Mr. Broadbent on S. 622, S. 662, S. 805, and S. 818 follow:]

Statement of Robert N. Broadbent, Commissioner
Bureau of Reclamation
Representing the Department of the Interior
before the Senate Committee on Energy and
Natural Resources Subcommittee on Water
and Power, on S. 622, a Bill
"To authorize the Secretary of the Interior
to undertake feasibility investigations"

May 2, 1983

S. 622 would authorize the Secretary of the Interior to undertake feasibility investigations in connection with 13 water resource developments. We recommend enactment of S. 622 with amendments to delete the Upper Klamath Offstream Storage Project and to add 15 more feasibility studies.

We support feasibility authorization for 12 of the investigations included in the bill. However, we do not support feasibility study authorization for the Upper Klamath Offstream Storage Project because recent appraisal evaluation shows that there are significant geologic problems in the proposed reservoir site area related to the volcanic origin of the region. As a result, we seriously question the feasibility of storing water in the reservoir site due to leakage through fractures that are remnants of past volcanic activity. Therefore, our appraisal report, scheduled for completion in fiscal year 1983, will not recommend further study.

We recommend that the Imperial Irrigation District canal lining investigation name be expanded to include "system improvement". This would enable us to study various other ways of conserving water, in addition to canal lining.

In addition, we recommend that the bill be amended to include 15 more project studies, bringing the total number of studies to 27. Feasibility authority for all 27 studies is needed before we can initiate investigations for these proposals under our new planning process.

We strongly encourage inclusion in S. 622 of the Saline Water Use and Disposal Opportunity Unit, which includes AQUATRAIN. We are presently conducting preliminary studies on AQUATRAIN, a proposed pipeline to transport both saline water and coal from the Upper Colorado River Basin to potential users in the Western States. We believe that the Saline Water Use and Disposal Opportunity Unit could encourage joint ventures between the Federal Government and private industry, potentially reduce the cost of saline water disposal, and utilize saline water which would otherwise not be usable.

We note that authorization to engage in a feasibility investigation of the Prairie Bend Unit, one of the 13 investigations included in S. 622, was also included in S. 681.

We will provide for the record specific language to implement our recommendations as well as a background statement for each of the 27 investigations.

Department of the Interior
Suggested Amendments to S. 622

1. On page 1, line 9, after "lining" insert "and System Improvement".

2. On page 2, line 8, after "in" insert "Dawson,".

3. On page 2, delete lines 22 and 23.

4. Redesignate sections 12 and 13 as sections 11 and 12, respectively.

5. On page 3, insert the following after line 5:

(13) Palisades Powerplant Enlargement, Palisades Project, located in Bonneville County, Idaho;

(14) Palisades Powerplant Enlargement, Palisades Project, second phase, located in Bonneville County, Idaho;

(15) San Joaquin Valley Ground Water/Surface Water Integration Study, Central Valley Project, located in San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, Kings, and Kern Counties, California;

(16) Delta Channel Constriction Investigation, Central Valley Project, located in Sacramento and San Joaquin Counties, California;

(17) Deep Carbonate Aquifer Project, located in Clark, Lincoln and Nye Counties, Nevada;

(18) Arizona Upper Gila Study, located in Greenlee and Graham Counties, Arizona;

(19) San Juan River Unit, Colorado River Water Quality Improvement Program, located in Arizona, Colorado, New Mexico, and Utah;

(20) Mesa Delta M&I Ground Water Study, located in Mesa and Delta Counties, Colorado;

(21) Southeast Oklahoma Water Supply and Distribution Study, located in Choctow, McCurtain, Pushmatoha, Garvin, Pontotoc, Coal Murray, Johnston, Atoka, Marshall, Bryan, Love and Carter Counties, Oklahoma;

(22) Northwest Oklahoma Water Supply Project, located in Cimarron, Texas, Beaver, Harper, Woods, Ellis, Woodward, and Dewey Counties, Oklahoma;

(23) Westside Irrigation Project, located in Washakie and Big Horn Counties, Wyoming;

(24) Crow Creek Indian Reservation Area, located in the Crow Creek Indian Reservation within South Dakota;

(25) Rapid City Regional Water Supply, located in the Pennington County, South Dakota;

(26) Saline Water Use and Disposal Opportunity Unit, Colorado River Water Quality Improvement Program, located in Colorado, Utah, Wyoming, Nevada, New Mexico, Arizona, and California;

(27) Sites Reservoir Investigation, Sacramento River Division, Central Valley Project, located in Glenn and Colusa Counties, California.

Statement of Robert N. Broadbent, Commissioner, Bureau of Reclamation of the Department of the Interior, representing the Department, before the Senate Committee on Energy and Natural Resources, Subcommittee on Water and Power, on S. 662 to confirm the repayment contract of the Dallas Creek Participating Project of the Upper Colorado River Storage Project.

May 2, 1983

Mr. Chairman and members of the subcommittee, thank you for the opportunity to appear today to testify on S. 662.

S. 662 would relieve the Tri-County Water Conservancy District of the costs necessary to complete the municipal and industrial features of the Dallas Creek Project in excess of the $38 million repayment obligation now specified in the district's contract with the United States. As of January 1983, we estimate that the municipal and industrial costs of the Dallas Creek Project will be about $73 million. Thus, if this bill were enacted, the municipal beneficiaries of the project would repay about half of the costs allocated to provide them a water supply.

It is this Administration's policy to have all costs associated with providing benefits to municipal and industrial water users repaid by the direct beneficiaries. However, we also recognize that this is a unique situation.

Because of the failure of Teton Dam and the subsequent improvement of design criteria, Ridgway Dam, the main storage feature of the Dallas Creek Project, was redesigned for safety reasons. Both the necessary modifications and inflation have substantially increased the estimated cost to complete the project. Unfortunately, the 1977 repayment contract with the district does not contain any provision for escalating or renegotiating the district's repayment obligation beyond $38 million in the event costs exceed repayment coverage.

The existing contract simply provides that the United States will construct the Dallas Creek Project and that the Tri-County Water Conservancy District will repay a maximum of $38 million toward the cost of furnishing municipal and industrial water facilities. On the basis of this arrangement, the district's electorate approved the repayment contract and construction was initiated.

The question that arises is whether the United States should incur the consequences of that 1977 contract and carry out express terms of the contract, or whether the district should be required to absorb extra costs it specifically wished to avoid.

We have explored other solutions to resolve this problem besides remedial legislation. One possibility is to market a portion of the municipal water supply to a third party such as an industrial customer. Moreover, the provisions of the Water Supply Act of 1958 allow the deferment of a limited portion of the costs allocated to municipal and industrial water storage if there is a reasonable expectation and a reasonable assurance that the deferred costs eventually will be repaid. However, these solutions could involve a reduction in the available water supply to the district.

In conclusion, we believe it is unfortunate that certain usual contract requirements, which allow for allocation of municipal and industrial costs increases above the original estimates, were deleted. We believe this is indeed a unique set of circumstances that should not be considered as a precedent for any other water project cost-sharing arrangement. For these reasons, we do not object to the enactment of S. 662.

We want to assure the Committee, however, that the Administration will make every effort to avoid repetition of this situation. We assure you that we will not sign any future contracts that do not provide for full repayment of the municipal and industrial costs of water as required under Reclamation law.

Mr. Chairman, this concludes my prepared statement. I will be pleased to answer any questions that you or other members of the subcommittee may have.

Statement of Robert N. Broadbent, Commissioner
Bureau of Reclamation
Representing the Department of the Interior
before the Senate Committee on Energy and
Natural Resources, Subcommittee on Water and Power
on S. 805, a Bill
"To authorize the Secretary of the Interior
to construct, operate, and maintain the
Santa Margarita Project, California, and
for other purposes"

May 2, 1983

Mr. Chairman and members of the Subcommittee. I am appearing today to present the views of the Department of the Interior on S. 805. The measure would authorize the Secretary of the Interior to construct, operate, and maintain the Santa Margarita Project, California.

S. 805 would amend Public Law 83-547, which in 1954 authorized construction of the project with a single reservoir on Camp Pendleton to allow development of two reservoirs or a suitable alternative to provide a water supply in addition to other benefits.

S. 805 would amend Public Law 83-547, which in 1954 authorized construction of the project with a single reservoir on Camp Pendleton,to allow development of two reservoirs to provide a water supply in addition to other benefits.

The project would be subject to a Secretarial determination of economic justification and environmental acceptance prior to appropriation of construction funds. The Secretarial determination would include identification of fish and wildlife mitigation measures, as appropriate, and would be based on studies in progress which are scheduled to be completed in 1984.

We support enactment of S. 805 with the attached amendments to change the interest rate provision of Section 1 and to clarify the fish and wildlife mitigation measures.

Section 1 would establish an interest rate based on 15-year government held obligations for the repayment requirements for interest-bearing functions. A more accurate measure of current Treasury borrowing costs would be determined by market yields on outstanding Treasury securities with remaining periods to maturity comparable to the period of investment. Our proposed amendment to section 1 provides a more equitable and effective way of approximating Treasury's borrowing costs.

The Santa Margarita Project would consist of two dams and reservoirs or a suitable alternative on the Santa Margarita River and two major conveyance lines to serve the Fallbrook Public Utility District and the Marine Corps Base at Camp Pendleton in southern California. The project is a multipurpose proposal which will provide a supplemental municipal and industrial water supply to both the district and Camp Pendleton and supplemental irrigation water to the district. In addition, the project will provide flood control, recreation, and regulation of imported water.

The Fallbrook Public Utility District serves an area of 15,760 acres, of which 8,790 acres are arable. The district purchases imported water from the San Diego County Water Authority to supply essentially all of its present water requirements. The project is needed to provide an additional water supply for these users in northern San Diego County in the face of growing needs and to reduce their dependence on import water supplies from the Colorado River and northern California. The combined import requirement of the district and the Base exceeds their current allotment from the San Diego Aqueduct. Their current demand is satisfied because some other districts are not using their full entitlement. Thus, the project also would relieve projected water supply

and distribution problems involving other districts in the County, although the project would not eliminate the need for the district to purchase water from the San Diego Water Authority.

The district is primarily agricultural, and water for irrigation comprises over 70 percent of its total water use. About 6,700 acres are under irrigation. The main crops produced are avocados and citrus, which account for about 88 percent and 10 percent of the irrigated acreage, respectively. Other crops, including strawberries and nursery stock, account for the remaining irrigated acreage.

Camp Pendleton, one of the largest Marine Corps bases in the United States, occupies 135,000 acres in the coastal mountains and plains west of the town of Fallbrook California. The base obtains most of its water supplies from the Santa Margarita River through an extensive system of check dams, spreading basins, and wells. Those supplies have been adequate in the past, but are presently not sufficient for expansion and would limit the number of troops that could be sustained at the base during a time of large mobilization.

The principal features of the plan of development would consist of Fallbrook Dam and Reservoir, DeLuz Dam and Reservoir, Fallbrook Conveyance Line, Cross-Base Aqueduct, and outdoor recreation and fishing facilities. Fallbrook Reservoir would be located near the town of Fallbrook and DeLuz Reservoir would be situated within Camp Pendleton about 8 miles downstream from Fallbrook Reservoir.

The two reservoirs would provide the necessary storage and regulation capability for conservation of the natural riverflows and regulation of imported water from the San Diego Aqueduct. The Fallbrook Conveyance Pipeline and Pumping

Plants would deliver project water from the Fallbrook Reservoir to the district's service area and the Fallbrook Naval Weapons Station.

The two reservoirs would yield an average of 15,540 acre-feet of water per year, which would be divided between Camp Pendleton and the Fallbrook Public Utility District. Camp Pendleton has historically captured 4,000 acre-feet per year through ground-water recharge. Therefore, the project net average annual yield would be 11,540 acre-feet. This yield would provide 7,050 acre-feet to Camp Pendleton and 4,490 acre-feet to the Fallbrook Public Utility District.

Most of Camp Pendleton's water supply would be released from the DēLuz Reservoir to the Santa Margarita ground-water basin for distribution through existing well fields and conveyance lines. The Cross-Base Aqueduct, consisting of about 18 miles of pipe, would extend from DeLuz Dam to five existing tanks and one proposed tank serving water to the training camps in the northern and central parts of Camp Pendleton.

The Department of the Navy advises that the project is vital to protecting the Nation's capital investment in the facilities located at Camp Pendleton. The Department of the Navy also advises that provision for an adequate, high-quality water supply will virtually eliminate the risk in proceeding with planned future development of those activities which are vital to our national defense structure.

Project water is to be divided 60 percent to Camp Pendleton and 40 percent to the district in accordance with the memorandum of understanding and agreement which was incorporated into the 1968 U.S.District Court decree which catalogued the water rights for the Santa Margarita River.

The estimated current project cost is $190,250,000 indexed to January 1982. We will review the final costs with the Department of the Navy and the Fallbrook Public Utility District. If necessary, we will consider modification of the planned development in order to keep the costs down.

In the benefit-cost analysis, the annual equivalent costs are $19,189,000 and the annual equivalent benefits are $24,875,000. Project benefits include: irrigation supply, $865,000; municipal and industrial water supply, $10,980,000; regulation of imported water, $6,767,000; flood control, $5,326,000; and recreation, $937,000. The Secretarial determination of economic justification will determine whether the benefits have increased proportionately in relation to the costs.

We understand that the Department of the Navy is willing to fund its share of these construction costs. Costs reimbursable by the Fallbrook Public Utility District, plus its share of operation and maintenance costs, would be repaid to the Federal Government by means of water charges plus an annual charge for storage of imported water. The repayment period would be 50 years or less. In addition, we understand that the district would provide presently owned lands at the Fallbrook site, which are valued at $8,352,000. The district also is contributing $50,000 to project investigation costs.

The Administration is now developing a cost-sharing policy for new water projects and the details of the cost sharing and financial arrangements with Fallbrook will be worked out when that policy becomes final.

Mr. Chairman, this completes my statement. I would be happy to answer any questions you may have.

Attachment

Department of the Interior
Suggested Amendments to S. 805

1. On page 2, line 25, strike out "The" and all that follows through "issue." on page 3, line 7, and insert in lieu thereof:

> The interest rate used for computing interest during construction, and interest on the unpaid balance of the interest-bearing rembursable costs of the project, shall be determined by the Secretary of the Treasury taking into consideration average market yields on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the reimbursement period of the project during the month preceding the fiscal year in which the costs are incurred. To the extent that more than one interest rate is determined pursuant to the preceding sentence, the Secretary of the Treasury shall establish for repayment purposes an interest rate at a weighted average of the rates so determined.

2. On page 2, line 4, following "including" insert: "the concurrent development of fish and wildlife mitigation measures and".

Statement of Robert N. Broadbent
Commissioner of the Bureau of Reclamation
Witness for the Department of the Interior before the Subcommittee
on Water and Power of the Senate Committee on Energy and Natural Resources
May 2, 1983

Mr. Chairman and members of the Subcommittee, I am pleased to be here to present the Department's views on S. 818, a bill "To authorize the replacement of existing pump casings in the Robert B. Griffith Water Project Pumping Plants 1A and 2A, (formerly the Southern Nevada Water project) and for other purposes."

We support the enactment of S. 818.

The first section of S. 818 would authorize the Secretary of the Interior to provide for the replacement of twelve cast steel pump casings in plants 1A and 2A of the Robert B. Griffith Water Project, Stage 1, with twelve stainless steel casings. Section 2 would authorize the Secretary to negotiate with qualified manufacturers for the replacements. Section 3 would provide that the United States pay the costs of the new casings and that the costs be nonreimbursable and nonreturnable. Section 3 would also provide that the State of Nevada bear the total cost of installing the new casings. Finally, section 4 would authorize an appropriation of $1.5 million, plus indexing as appropriate, for the procurement of the replacements.

The Robert B. Griffith Water Project, Stage 1, was developed by the Bureau of Reclamation. It contains fourteen horizontal centrifugal pumping

units in Pumping Plants 1A and 2A. These fourteen units pump water from the Alfred Merritt Smith Water Treatment Plant near the shore of Lake Mead through project water conveyance pipelines to terminal storage facilities which feed water distribution systems serving Las Vegas, North Las Vegas, Henderson, Nellis Air Force Base, and other communities in the Las Vegas area.

The operation of the original pumps and motors at Pumping Plants 1A and 2A has been unsatisfactory. Maintenance costs have been extraordinarily excessive, and it is clear that the lifespan of the units will be significantly shorter than normal unless the units are modified.

Hitachi American, Ltd., under the Bureau of Reclamation Solicitation No. DS-6637, furnished the pumps, motors, and appurtenant equipment; the company also supervised the installation. The pumps and motors were placed in operation in 1971. In January 1973, a unit was dismantled because of the development of unusual noise. Excessive cavitation damage was found, as evidenced by holes completely through some of the pump impeller vanes. Cavitation also was found on the casing at the eye of the impeller (intake side). At that time, the unit had operated approximately 2,100 hours. Although the one-year warranty period had expired and Hitachi did not admit legal responsibility under the contract, Hitachi agreed to reshape the leading edge of the vanes in all 14 impellers, and the company contributed $18,500 as its part of the cost. The project water users assumed responsibility for the remaining costs, including the costs of dismantling and

reassembling the units. After testing, it was apparent that the cavitation problem had not been solved.

Since the expiration of the warranty period, Hitachi has expended considerable effort to modify the pumps so that they would operate satisfactorily. Costs expended on the effort to obtain acceptable results from the pumps are approximately $1 million by Hitachi, $300,000 by the water users, and $150,000 by Reclamation. Reclamation's costs must be repaid with interest by the water users. The combined expense of remedial measures to date far exceeds Hitachi's original bid of $693,400 for furnishing the pumps, motors, appurtenant equipment, and its supervision of the installation.

Model tests and impeller redesign since the problem was discovered in 1973 indicate that many factors were involved, such as the synchronous speed of the units (1,200 revolutions per minute), the magnitude of the suction and discharge head, the corrosive effect of the water, and the type of materials used in the casings and impellers.

Major changes that were made subsequent to installation of the original equipment include: (1) redesigned impellers; (2) modification of the casing baffle plates; and (3) changing the start/stop time sequencing for the pump valving. All of these measures helped diminish the magnitude of the problem, but did not totally resolve it.

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In July 1979, we decided to install two stainless steel casings, fabricated by Hitachi, in a research program as a final effort to resolve the problem. If that effort had failed to resolve the problem, the only alternative would have been to replace all of the pumps and motors with units having a synchronous speed of 900 revolutions per minute. However, the results of the research program completed in 1980 are conclusive. They show that replacement of the existing cast steel casings with stainless steel casings is a final acceptable technical solution to the cavitation/corrosion/erosion problems. The motors, shafts, and impellers will not have to be replaced if the casings are replaced.

The estimated cost of procuring the stainless steel casings is $1.5 million (July 1980 price levels). Because of the very poor performance of the existing units almost from the inception of the project, the exceptionally high cost of date of maintenance, the additional costs incurred by the water users, and the participation of the State in the casing replacement, we believe that it would be appropriate to make the cost of procuring the pump casings and appurtenant parts nonreimbursable. We therefore support enactment of S. 818.

I would be pleased to answer any questions that you may have.

Thank you.

Senator NICKLES. Commissioner, first, the projects that you wish to delete. Could you give me an explanation for that?

Mr. BROADBENT. The Upper Klamath study is a study that we have had ongoing under an appraisal level for about the last year. It's a study for offstream storage in Oregon. Geologic studies to date indicate that we are not ready for a feasibility study. There's been a report done by a private geology firm that indicates to our geologists that there are serious leakage problems at the storage sites.

We would like to have another year to work on the appraisal level study of the offstream storage before we come back.

Senator NICKLES. By offstream storage are you talking about a reservoir?

Mr. BROADBENT. Yes; a reservoir. And it's in an area above the Klamath project. There are three natural lakes in the area which are holding water. However, it is also an area that has volcanic geology, which indicates that we may have some problems with a new man-made reservoir.

Senator NICKLES. These 15 additional feasibility studies that you have requested, none of which have dollar figures involved, do you have the amounts that you would be requesting for the feasibility studies?

Mr. BROADBENT. Yes, sir, those amounts will be included in the background statements for each of the 27 investigations. Many of those will have substantial amounts of cost sharing, too.

Senator NICKLES. Substantial amounts of cost sharing?

Mr. BROADBENT. Yes.

Senator NICKLES. Can you give us an estimate of when those background statements will be ready?

Mr. BROADBENT. We'll try to have them for you shortly. We can give you most of them right away, and will submit the rest as soon as they are completed.

Senator NICKLES. If you would I would appreciate that.

Mr. BROADBENT. All right.

Senator NICKLES. Also, on the same subject. In looking at the development of this bill last year there was a cost sharing proposal. The original House bill had 1 project and the Senate added the other 13. The Senate did not have a cost sharing provision. I recall that as the bill progressed through the House, a cost sharing provision was added. Is it your belief that we should have a cost sharing provision included on the feasibility studies?

Mr. BROADBENT. Well, the problem is that we're in the process of converting to a two-stage planning process where technically we won't have a category entitled feasibility studies in our program as the corps does.

In the corps proposal the initial appraisal study or the reconnaissance study, as they call it, would be done on a nonreimbursable basis. This study would take no longer than 12 to 18 months to see if it's worthwhile going any further. The next phase of the corps study, the feasibility study, would then be cost shared.

And we don't have any objection to that.

Senator NICKLES. Well, is that the way that you hope the Bureau——

Mr. BROADBENT. Yes, sir, that's the way we're proposing to do it now with our two-stage planning process. The initial stage, or planning study, goes part way into what we now call feasibility studies. We have a chart that we'd like to present to your committee to show how our process compares to the corps process. We want to show that our process is consistent with some of the recommendations that are presently being made by some people in the corps.

Senator NICKLES. OK. Well, we would appreciate that and would also appreciate receiving as soon as possible the background on the various projects that you're proposing adding to this legislation.

Mr. BROADBENT. All right, sir.

Senator NICKLES. With the dollar amounts.

Mr. BROADBENT. All right, sir.

Senator NICKLES. Moving to the next. And I appreciate your comments. I am aware of the fact that you did testify before this committee and your statements, of course, for each of the additional bills will be entered. Next we might move to Senate bill 662, Dallas Creek project.

Mr. BROADBENT. I've just been told that we have statements ready on all 27 of the feasibility studies and should be able to send them up. We've had a couple of corrections we had to make, but they're all done. And so we should have them up to you probably within the next day or two.

Senator NICKLES. Good. That would be appreciated.

Moving on to Dallas Creek. Do you have any opening comments?

Mr. BROADBENT. Only to say that we testified on Dallas Creek, last year and indicated that we did not oppose the legislation. That is still our testimony today. We recognize that the Tri-County Water Conservancy District had a contract, a fixed repayment obligation contract, probably not in the best interests of the Government at the time it was entered into. Since then, we have had to do major redesigns of Ridgway Dam, the main storage feature of the Dallas Creek project, because of new seismic and dam safety problems. Then we got caught in the inflationary spiral of the late seventies and early eighties, and that moved the cost of the project up.

Dallas Creek is the only project we know where we have this kind of a contract. The only other contract that might have some problems in it was entered into many years ago, and that is one on the Bonneville unit of central Utah project.

I feel that when the Government makes a contract, it should keep that contract. If they made a bad one, then certainly they ought to keep it. If they make a good one, they ought to keep it.

On that basis, the administration has said that it has no objection to this bill. That, essentially, was our testimony last year.

Senator NICKLES. Thank you. Maybe for an update can you give us what the estimated cost to completion is and how far along we are in that project now?

Mr. BROADBENT. The estimated cost to completion is about $78 million.

Senator NICKLES. The estimated what?

Mr. BROADBENT. The cost to completion is $78,141,000. Cost allocation of the contract for municipal and industrial purposes is $38 million.

We don't have the percentage completed but I think it maybe around 40 percent complete. We'll provide that to you for the record.

[The requested information follows:]

As of May, 1983, the Dallas Creek Project is approximately 51 percent complete.

Senator NICKLES. We'd appreciate that. And the estimated completion date is in 1988 or 1989?

Mr. BROADBENT. Eighty-eight or 1989, depending on appropriations.

Senator NICKLES. The contractual limitations as to the, what is it, municipal and industrial users is $38 million?

Mr. BROADBENT. That's correct, Senator.

Senator NICKLES. The estimated cost for their pro rata share of the project is estimated to be how much?

Mr. BROADBENT. About $73 million.

Senator NICKLES. $73 million. So a cost to the Government of the difference of those two, $35 million?

Mr. BROADBENT. Yes, sir.

Senator NICKLES. You mentioned that there were no other existing contracts that had this limitation where the Government would be getting burnt, with the possible exception of the central Utah project in Bonneville?

Mr. BROADBENT. That's all that we're aware of. And we did extensive research on this last year.

Senator NICKLES. Has there been an estimation of where that limitation is going to leave the Government short of so many dollars, do you have a figure on that?

Mr. BROADBENT. Well, we're not sure that the central Utah project will apply yet. We're still researching it. But we did want to bring it to your attention that there is that possibility. I think it's the feeling so far of the Department's Solicitor that it would not apply. But we are still looking at it.

Senator NICKLES. Is that a project that's currently in construction?

Mr. BROADBENT. Yes, sir.

Senator NICKLES. Do you know how far along it is?

Mr. BROADBENT. It's about 28-percent complete.

Senator NICKLES. Is that another—Is that a reservoir?

Mr. BROADBENT. No; it's a major conveyance system of water in Utah to take it from the Green River or from the drainage into the Colorado River across the mountains into Salt Lake City or into the Wasatch Front, which is the whole area of communities along Salt Lake City.

Senator NICKLES. When you are signing contracts in the future or renegotiating or negotiating, are you covering yourself a little bit better?

Mr. BROADBENT. Yes, sir, all of our contracts now say that they're indexed and then if they have to be renegotiated to meet increased costs, we put a renegotiating clause in there automatically.

Senator NICKLES. In reading through some of the comments that were made last year, I think somebody had mentioned that they thought that this might happen on Dolores Creek.

Mr. BROADBENT. No, for the Dolores project the State of Colorado agreed to provide part of the financing—and Bill McDonald is here and could tell you where it is right now. The district and the State of Colorado have reached agreement in principle, for the State to fund part of the non-Indian M&I water supply facilities. Appropriation of the funds by the State legislature is all that remains to be done. And so we think that's been taken care of.

Senator NICKLES. So the State would be picking up the cost?

Mr. BROADBENT. Yes, sir, about $10 million.

Senator NICKLES. The modifications that were made in the Dallas Creek project, did that significantly alter the volume of water that would be received?

Mr. BROADBENT. If we modified the Dallas Creek contract so that the water users got only what they paid for, it would cut their water about in half. But as this bill is anticipated, it would have no change in the amount of M&I water to the Dallas Creek area.

Senator NICKLES. To the amount of M&I water that they had actually contracted for in 1977?

Mr. BROADBENT. Yes, sir.

Senator NICKLES. That, if I remember, actually stated so many acre-feet of water then they would still receive that same amount. So even though we've had the contract changes those are primarily related to safety and other factors, and didn't increase appreciably the volume of water that would be received?

Mr. BROADBENT. No, sir. It would stay the same.

Senator NICKLES. Any other comments on Dallas Creek?

Mr. BROADBENT. No, sir.

Senator NICKLES. OK. Comments on Santa Margarita?

Mr. BROADBENT. Mr. Chairman, our statement on the proposed Santa Margarita project is much the same as it was last year. We have appeared to present our current views on it and to indicate to you that we support Santa Margarita with a few amendments.

Senator NICKLES. Do you have those amendments?

Mr. BROADBENT. Yes. The amendments we would support are to change the interest rate provision of section 1 and to clarify the Fish and Wildlife mitigation measures.

Senator NICKLES. OK, that's the amendment that's attached to the back of your statement?

Mr. BROADBENT. Yes.

Senator NICKLES. The interest rate would be market rates of interest?

Mr. BROADBENT. Yes, sir.

Senator NICKLES. Isn't that what was in the bill?

Mr. BROADBENT. It is somewhat unclear, and I think that is basically our problem.

Senator NICKLES. OK. Am I correct in saying that a feasibility study is being revised? One had been completed that was in the process of being revised?

Mr. BROADBENT. Yes. The project was authorized in 1954 and about then there were some water rights problems between Camp Pendleton and the Fallbrook Irrigation District which ended up in court. Last year, as a result of the interest by Camp P...dleton, we began the process of updating the feasibility study. That is where we are right now.

We are on target in the updating of the studies, and we hope we will have them completed this fall. The primary work that we are doing now is on the DeLuz Dam, for dam safety problems, and then on the Fish and Wildlife mitigation measures for the whole project. The mitigation measures are being done by Fish and Wildlife Service in cooperation with State fish and game and our agency. We expect a preliminary report, soon.

Mr. LEE. I think we're looking now toward early 1984.

Mr. BROADBENT. Yes, early 1984.

Senator NICKLES. When was the original feasibility study completed?

Mr. BROADBENT. In 1971.

Senator NICKLES. And so you expect to have the revised or updated feasibility study finished in the early part of 1984. What costs are we looking at for this project?

Mr. BROADBENT. Costs are around $200 million.

Senator NICKLES. $200 million in what year?

Mr. BROADBENT. Based on 1982 prices.

Senator NICKLES. Those are 1982 dollars?

Mr. BROADBENT. Yes, 1982 dollars.

Senator NICKLES. Do you have the percentage of the projects that would be borne by the Navy?

Mr. BROADBENT. We're working it out with the Navy right now. However, indications are that it would be around 52.5 percent.

Senator NICKLES. About 52.5 percent of the project?

Mr. BROADBENT. Yes.

Senator NICKLES. Would they pay for that percentage of the water as other, say, an M&I user would over the cost of——

Mr. BROADBENT. The repayment schedule for the Navy is still being worked on. There are several ideas we are looking at. One is a repayment over a fixed period of time of so many million dollars every year. The other one is payment during the time of construction for its proportionate portion.

It is still unclear between the Navy, Bureau of Reclamation, and the budget examiners for the respective agencies on how repayment would be accomplished. We intend to work that out and anticipate it will not take too long.

Senator NICKLES. What would be the estimated time to complete construction, pipeline, et cetera, for both dams?

Mr. BROADBENT. Seven years.

Senator NICKLES. Would it be done in installment? Would you complete the lower dam first?

Mr. BROADBENT. You probably would be working on all of the project a little bit at a time, although there would be certain features that you would contract out first. I imagine the upper dam probably would be first because it is not quite as extensive a dam; then you probably would work on some of the canal features. There would be a series of about five or six major contracts, and they could be awarded as we get the specification design completed and funds are appropriated.

Senator NICKLES. What type of dams would these be?

Mr. BROADBENT. Mr. Lee, would you respond to that question?

Mr. LEE. We have looked at several varieties. Right now the upper dam quite possibly could be a roller compacted concrete.

Senator NICKLES. Be a what?

Mr. LEE. Roller compacted concrete. We also have looked at earth filled dams. The lower dam has been estimated as an earth fill structure. We still are looking at some options to try to hold our costs within the $200 million range.

Senator NICKLES. Is the earth fill dam considerably cheaper than the roller concrete dam?

Mr. LEE. Actually it's more expensive.

Senator NICKLES. Is that right?

Mr. LEE. Yes, because we have to put a separate spillway under the earth fill, whereas the roller compacted concrete upper dam is small enough to put the spillway across the top and save some money. It looks fairly good. We still have some more detailed studies to complete.

Senator NICKLES. You show a pipeline on your map that runs the length of the——

Mr. LEE. The pipeline runs the length of the Camp Pendleton Marine Corps Base. It's actually service for Camp Pendleton.

Senator NICKLES. How long is that pipeline?

Mr. LEE. Eighteen miles.

Senator NICKLES. What diameter?

Mr. LEE. I believe it runs somewhere around 18 to 24 inches, depending on the location of the pipeline.

Senator NICKLES. Commissioner, any other comments on Santa Margarita?

Mr. BROADBENT. No, sir.

Senator NICKLES. Any final comments on Nevada pumps?

Mr. BROADBENT. Mr. Chairman, this is also a bill that we testified on last year. We appear in support of the enactment of S. 818.

This was a result of the southern Nevada water project's having been constructed in phase 1 where they had 14 pumps put in. Shortly after installation they found problems with the pumps. The pumps were put in at a cost of about $800,000 in the original contract.

Senator NICKLES. Of how much?

Mr. BROADBENT. $800,000 in the original contract.

Senator NICKLES. Is that for all 14 pumps?

Mr. BROADBENT. All 14 pumps were put in for about $800,000. Since then the subcontractor who put in those pumps has spent over a million dollars trying to repair them.

Senator NICKLES. Is that at their expense or——

Mr. BROADBENT. At their expense.

Senator NICKLES [continuing]. Or have they been reimbursed?

Mr. BROADBENT. At their expense, not reimbursement. The recipients of the water, the southern Nevada water project people, have put in about $300,000 of their money at their expense trying to repair them. And the Federal Government has spent about $150,000 at its expense, but this was billed to the southern Nevada water project contractors with interest.

So in essence I would say Hitachi has spent about $1 million, and the southern Nevada water project people have spent about $450,000 trying to fix those pumps. They finally found a way to fix them. They installed metal stainless steel casings for the pumps because it was cavitation that was causing the problem. They have

installed it in two of the pumps. They are working well. The money that is to be appropriated here is to install it in the other 12 pumps.

It's estimated that the cost of the casings would be about $1½ million, and the southern Nevada water project people would pay for the tear down and the installation.

Senator NICKLES. What happens if that works today but we install the new casings and then 2 years from now they fail? Who picks up the cost for replacement or repair then?

Mr. BROADBENT. I would think that it would be a cost to be borne by the southern Nevada water project people. It's a normal maintenance cost if there are maintenance problems. However, this happened so soon after installation that it was felt that there was probably a faulty design problem, candidly.

Senator NICKLES. The southern Nevada project, I'm not that familiar with it. How large of a project is that?

Mr. BROADBENT. That's about a $200 million project to deliver approximately 299,000 acre-feet of water primarily to the Las Vegas area.

Senator NICKLES. And normally don't the consumers or users of the water pay the operation and maintenance expense for projects of that nature?

Mr. BROADBENT. Oh, yes. In fact there's a contract that the Government has entered into with the southern Nevada project for repayment of this.

Senator NICKLES. For repayment of the $1½ million that you're requesting?

Mr. BROADBENT. No, not the $1½ million. The $1½ million as the bill is introduced is to be nonreimburseable.

Senator NICKLES. Well, the question is—and I'm asking these questions not in an adversarial way, but they were asked on the House side and there was some opposition, as you know, that did surface from the House side—should the taxpayers of the United States pay for maintenance, although maybe somewhat unusual maintenance, for projects whose recipients are confined to a particular city of community?

Mr. BROADBENT. I think the only response we would have to that is that people in the southern Nevada water project entered into this contract in what they felt was good faith that those pumps certainly would have a life expectancy of something longer than 1 year or 2. Because of that it was felt by the administration that it might be in the best interests of all parties concerned to make that nonreimbursable.

Senator NICKLES. Do you know what the term or the warranty that the original manufacturer had on those pumps?

Mr. BROADBENT. One year.

Senator NICKLES. One year. Is that a short lifespan for pumps and impellers of that——

Mr. BROADBENT. No, but that's the normal warranty you get on any job, primarily to see if there's any faults.

Senator NICKLES. So if this bill is not enacted then the recipients of that water then will actually—the casings are going to have to be replaced?

Mr. BROADBENT. Yes, sir.

Senator NICKLES. And so it's just a question of whether or not it would be borne by the taxpayers for that replacement or it would be borne by the recipients of the water?

Mr. BROADBENT. That's correct.

Senator NICKLES. Commissioner, the additional costs for those pumps and impellers did you say was what?

Mr. BROADBENT. $800,000.

Senator NICKLES. And yet they've already put $1 million in trying to repair them?

Mr. BROADBENT. About $1 million.

Senator NICKLES. $1½ million if you added everything together?

Mr. BROADBENT. Half a million was added to the repayment obligation of the southern Nevada water project, and the $1 million was spent by Hitachi in trying to avoid tarnishing their reputation.

Senator NICKLES. But in that $800,000 you're talking about the pumps, the vanes, impellers?

Mr. BROADBENT. Yes.

Senator NICKLES. The entire casings and everything? And now we're talking about just replacing the casing alone.

Mr. BROADBENT. Well, it's a stainless steel casing. And I would guess that that's much more expensive than the original casings.

Senator NICKLES. Thank you very much for your cooperation again before this committee.

Mr. BROADBENT. Thank you very much, Mr. Chairman.

Senator NICKLES. Next we will have our first panel: Pat O'Meara, executive vice president, National Water Resources Association; Brent Blackwelder, project director for the water conservation project, Environmental Policy Center; and Edward Osann, director of the water resources programs for the National Wildlife Federation.

Mr. O'Meara, we're glad to have you back again. Is Mr. Osann present?

[No response.]

Senator NICKLES. Gentlemen, welcome. Mr. O'Meara, would you care to take off. And again, we'd appreciate summations. I've read your comments on the bills that were made last Comgress.

Please proceed.

STATEMENT OF J.W. "PAT" O'MEARA, EXECUTIVE VICE PRESIDENT, NATIONAL WATER RESOURCES ASSOCIATION, WASHINGTON, D.C.

Mr. O'MEARA. Thank you, Senator. I have a statement I've submitted to the committee. I would abstract from that in order to keep my presentation brief. But I certainly want to express my appreciation to you, Senator Nickles, for setting the hearing to address the issues raised by these four bills.

We are pleased to note from the previous witness, Commissioner Broadbent, that the Bureau of Reclamation has asked this committee to consider a substantive amendment to S. 622 by adding 15 additional study proposals. As introduced by Senator McClure, the bill would authorize the Secretary of the Interior to undertake project investigations on 13 proposals. But we note with concern, that the Bureau has deleted one of the proposals that is in the Mc-

Clure bill, and that is the Upper Klamath offstream storage study of the Klamath project located in Klamath County, Oreg.

We would remind the members of this committee or of this subcommittee that it was approved by the Senate last year—the Klamath study. It failed to receive substantial support in the House. It just didn't get to the floor and so it died. So we ask the subcommittee to again approve the Klamath proposal and the additional 15 project investigations recommended by the Bureau.

S. 662—

Senator NICKLES. Before you move on, let me just interject a quick question. Are you aware of the reservations or the comments that the Commissioner stated as far as the geological formation?

Mr. O'MEARA. Well, that, certainly, that's one of the things that hasn't been studied to any extent. And I've checked with the people in Oregon and they're very anxious that they would proceed with the feasibility study on the Klamath Falls, you're referring to?

Senator NICKLES. Yes.

Mr. O'MEARA. Yes; there are some, apparently some geologic problems, there are some substructure problems with gravel, loose fill. But they would very much like to have that site fully examined at a feasibility level study.

Senator NICKLES. OK, please proceed.

Mr. O'MEARA. Senator Armstrong, I think, has introduced a very straightforward answer to a rather complex problem. At a hearing last year before this subcommittee, and again today, proponents of this legislation have provided ample justification, I think, for its enactment. There are those who describe this project as a giveaway. And there are those who oppose this legislation on the basis that they are concerned that it would set a precedent.

If it did set a precedend I think I would agree, but the chances that this same set of circumstances would occur again are extremely remote.

I think the people of the project area have every right to expect that a contract is a contract. And they have a contract negotiated with the U.S. Government. It's been signed by the United States and by the project. And I think they've got every right to expect that that contract would be honored.

We come to S. 805 by Senator Wilson, the Santa Margarita project. This is to reauthorize a project that I think is one of the types of projects that indicates the problems we had in water resource development. It was first authorized in 1954. Nothing has been built yet. And here we are back now, this many years later, asking that it be reauthorized. When it was first authorized it became entangled in water rights problems and it took them until 1968 to settle that issue.

In the time that elapsed then two other sets of circumstances had developed. It was necessary to prepare a new feasibility study and to accommodate a new requirement that had developed during that delay time and that was they had to write an environmental impact statement, something that wasn't required when the project was first authorized. Then they took until 1975 to complete those

issues. And they finally moved forward only to have their project pigeonholed by the Carter administration and held up over in the Water Resources Council where there were 60 or 70 projects that were just put away over there and never reached the light of day.

Now I think the need for water in southern California dictates very clearly that we should move ahead with the Santa Margarita project. It's essential to the national security of the United States in that the Marine Corps camp at Pendleton will receive water. Additionally, and additional benefit is that Fallbrook, Calif. will also get water from it.

The updated financial analysis indicates a favorable cost/benefit ratio of 1.34 to 1 and the non-Federal water contractor, the Fallbrook Water—Fallbrook Public Utility District, will fully repay its allocated construction costs.

Because it will also supply the community of Fallbrook for additional water the justification of this project is enhanced. We support the adoption of S. 805.

Finally, Mr. Chairman, we wish to add our support to S. 818 by Senators Laxalt and Hecht. We appeared before this subcommittee last year. As you indicated our record is—we are on the record. And asked for the enactment of this authorization to replace existing pumping equipment. Now the project representatives will provide the subcommittee with engineering justification of S. 818.

We would especially call the attention to the fact that the cost of installing these new pump casings will be paid for by the State of Nevada. The bill also especially states that the United States shall incur no further liability with respect to the pumps in the pumping plants of the Robert B. Griffith water project.

Thank you, Senator, for your time to make such statements.

[The prepared statement of Mr. O'Meara follows:]

Statement of
J.W. "Pat" O'Meara
Executive Vice President
National Water Resources Association
before the
Subcommittee on Water and Power
Energy and Natural Resources Committee
United States Senate
May 2, 1983

Mr. Chairman and Members of the Committee:

It is my pleasure to represent the National Water Resources Association at this hearing today. I want to express our appreciation to you Senator Nichols for setting this hearing to address the issues raised by the four bills which are on the hearing agenda.

We will comment on these bills by their numerical number so that we do not leave the impression that we support one bill more than another. All of these bills are important to the areas they affect.

We are pleased to note that the Bureau of Reclamation has asked the Subcommittee to consider a substantive amendment to S. 622 by adding 15 additional proposals. As introduced by Senator McClure, the bill would authorize the Secretary of the Interior to undertake project investigations on thirteen proposals. We note with concern, that one of the proposals in the "McClure bill" has been deleted by the Bureau of Reclamation in their amendment. We refer to proposal number 11 of S. 622 which is the Upper Klamath offstream storage study of the Klamath project located in Klamath County, Oregon. We would like to remind members of the Subcommittee that the Klamath proposal was approved by this Subcommittee and the full Senate last year. It was also approved by the House Committee on Interior and Insular Affairs but did not receive the final consideration by the House in the lame duck session. We urge the

Subcommittee to again approve the Klamath proposal and the additional 15 project investigations recommended by the Bureau of Reclamation.

S. 662 introduced by Senator Armstrong is a straight forward answer to a rather complex problem. At a hearing last year before this Subcommittee, and again today, the proponents of this legislation have provided ample justification for its enactment. There are those who have described this project as a "give-away," but I notice they are not from the project area. There are those who oppose this legislation on the basis that they are concerned that it would set a precedent. I would agree, but the chances that this same set of circumstances would occur again are extremely remote. The bill simply says, a contract is a contract, and we support that concept.

The reauthorization of the Santa Margarita Project, as proposed in S. 805 by Senator Wilson, is a bill with a long history that deserves favorable attention by this Subcommittee. This project was first authorized in 1954. It immediately became entangled in extensive water rights litigation between the local water users and the Federal government. It took until 1968 to settle that issue. Following that long delay, it was necessary for the Bureau of Reclamation to prepare a new feasibility study and to accommodate a new requirement -- the development of an environmental impact statement. Those two requirements were completed by 1975 and the project sponsors with admirable tenacity sought to have the project reauthorized, only to have it "pigeonholed" at the Water Resources Council by the Carter Administration. Now, after 30 years of frustration and delay, we are here to support S. 805 and ask for committee endorsement. We think this project has ample justification including the perseverance of the project sponsors.

The Santa Margarita Project will serve an important military installation, essential to the national security of the United States, the Marine Corps base at Camp Pendleton, California and also provide agricultural and municipal and industrial water to the community of Fallbrook, California. Located in San Diego County, California, this region is almost entirely dependent upon water transported from hundreds of miles away in northern California and from the distant Colorado River. The ability to develop a local water resource to meet the needs of the local population will not only provide significant local benefits but add the important element of security. The water transportation system upon which the area must now rely, cross active earthquake faults located throughout the southern California area and are subject to disruption at any time.

The project would consist of two dams, Fallbrook and Deluz, and necessary related transportation facilities, provide agricultural and municipal water supply, necessary flood control, enhance substantially the water based recreational capability in the region and has the potential for the development of clean hydroelectric power. The updated financial analysis indicates a favorable cost benefit ratio of 1.34 to 1 and the non-federal water contractor, the Fallbrook Public Utility District, will fully repay its allocated construction costs. The current plans of the Marine Corps to enhance the capability at Camp Pendleton and to assign additional units to that base as a part of our national security build-up underscore the urgent need to construct this installation. Because it also will supply the

the needs of the Fallbrook community for additional water the justification of this project is further enhanced. NWRA supports your adoption of S. 805.

Finally, Mr. Chairman, we wish to add our support to S. 818 by Senators Laxalt and Hecht. We appeared before this Subcommittee last year to urge the enactment of this authorization to replace existing pumping equipment. Project representatives have provided the Subcommittee with engineering justification of S. 818. We would especially call your attention to the fact that the cost of installing these new pump casings will be paid for by the State of Nevada. The bill also especially states that the United States shall incur no further liability with respect to the pumps in the pumping plants of the Robert B. Griffith water project.

We appreciate the time the Subcommittee has provided for us to offer these comments. We hope you will move these bills forward as expediciously as possible.

# # #

Senator NICKLES. Thank you very much, Mr. O'Meara.
Mr. Blackwelder?

STATEMENT OF DR. BRENT BLACKWELDER, PROJECT DIRECTOR OF THE WATER CONSERVATION PROJECT, ENVIRONMENTAL POLICY CENTER, WASHINGTON, D.C.

Dr. BLACKWELDER. Yes. First I would like to address the Dallas Creek project. I believe the reason you have the bill before you is that the current contract may not withstand a court challenge because it contravenes standard reclamation law. And that's why we are here today.

In view of the fact that you have to consider this project, we believe that you ought to look at the merits of the project and whether it's worth spending the additional amount of money—some $80 million according to the budget submission this year—to complete the Dallas Creek project or whether it would be better to mothball that project.

The two primary benefits of the project are irrigation water and municipal water. In my testimony I have called your attention to the report of the General Accounting Office which severely criticized the irrigation component of that project. And I just want to read what they said:

They said, the Bureau's "failure on this project to do a with-versus without-project analysis is a serious omission and masks the actual situation of no demonstrable increase in output because of the project."

Now I believe it would be worthwhile to ask the GAO, since they spent the time to analyze this project, what they really think of the economics of the project. And their conclusion is, as I've indicated in my testimony, that there is no merit in the agricultural component.

When we look at the municipal water supply we find that the Bureau says the average use in the towns to be served will be 300 gallons a day. Now I've just completed a comprehensive analysis of water conservation programs across the United States and I will submit that to the committee for its use. It is our findings that communities can take many steps to become more efficient in their use of water.

For example, take a western city like Tucson. Their per capita use is 140 gallons a day, in contrast to the 300 gallons a person in the towns to be served. Certainly those towns could take some of the efficiency measures that Tucson took and there would be no need for this project to supply them water, and taxpayers who are now hard pressed and the Federal Government which is hard pressed would be spared that expense.

We are dealing in a situation where communities which take a little bit of self-help can achieve a great deal of savings both to themselves and to the taxpayers generally. And I believe that this is the case with Dallas Creek.

Let me turn next to the Santa Margarita project.

Senator NICKLES. Before you leave Dallas Creek, if you don't mind, let me just ask you a quick question. So it would be your

hope that we would stop funding period on Dallas Creek project and abandon the project?

Dr. BLACKWELDER. Mothball the project. In particular, it appears to us that the water that would be used for comparatively low value agricultural production in Colorado could much more beneficially be put to use in southern California. The National Water Commission which was commissioned by the Congress in 1968, provided a mechanism for long term transfers of water.

It's possible that Colorado water could be leased by the State of Colorado to beneficaries in California who could afford to pay far greater quantities, perhaps in the neighborhood of $100 to $200 per acre-foot for this water, in contrast to the ability to pay in Colorado of only $17 to $22 an acre-foot.

So why not put water to the highest and most beneficial use by these long term leases? It would be beneficial both to the State of Colorado and it would be beneficial to southern California.

Senator NICKLES. So you question the value of the agricultural use and also, for the M&I use?

Dr. BLACKWELDER. Exactly.

Senator NICKLES. How does the contract differ with existing Bureau law?

Dr. BLACKWELDER. It arbitrarily places a ceiling on repayment of $38 million.

Senator NICKLES. Is that against the law?

Dr. BLACKWELDER. Our understanding of reclamation law is that there cannot be such limitations placed upon repayment of municipal water supply costs, which are supposed to be fully reimbursable. And that the reason you have the bill here is that the sponsors of the project know that that could be challenged in court and might not stand up.

Senator NICKLES. So it's your interpretation that that limitation would be contradicting existing law as far as repayment provisions?

Dr. BLACKWELDER. Exactly.

Senator NICKLES. Thank you, please proceed with Santa Margarita.

Dr. BLACKWELDER. We think it's premature to consider authorization of Santa Margarita project at this time. There are a number of concerns that still remain to be resolved.

The Bureau, in its report to the Congress this year in the budget document said the following:

> Ten years have elapsed since completion of the studies on which the feasibility report was based and there are concerns as to the current appropriateness of the dam design, water yield, economics, and wildlife mitigation of the project.

We have those concerns. We would like to see the completed feasibility report. It won't be ready until April of next year. At that time we could see whether the wildlife mitigation is adequate, whether the economics of the project look to be meritorious. We can't make that decision now in the absence of that completed feasibility report and we hope the committee would exercise its judgement and demand that full kind of completed report before going ahead and approving the project.

There are some additional points we make on Santa Margarita. We are concerned, as are conservationists in California, that this is one of the few streams left with substantial riparian vegetation on it. And it does have—there is substantial concern about the impact of the project on that vegetation and the wildlife it supports.

Let me just mention two other points on the two bills pending before you. We would like to see cost sharing attached to the feasibility studies. The Assistant Secretary of the Army, William Gianelli, proposed feasibility studies to be cost shared 50–50 with half of the local share being available in the form of an inkind contribution. That proposal makes sense to us and we support it. We think it should apply to Bureau feasibility studies.

We have a concern about one of the feasibility studies, the New Melones study. The Federal Government spent over $300 million building the dam. Now sponsors are returning to ask for feasibility study for distribution systems. It's as if you never have an end to the amount of money that the Federal Government has to sink into a particular area.

It would seem to us after this very generous investment of a lot of money why should they then come back after the dam is completed and say, "Oh, gee, we need to study now whether we can get some conveyance systems and distribution systems going so we can use this water."

If you see what I mean, where does it stop? That's a question we have on that feasibility study.

And finally, with the Nevada——

Senator NICKLES. Do you know when that dam was built?

Dr. BLACKWELDER. I beg your pardon?

Senator NICKLES. Do you know when the New Melones Dam was built?

Dr. BLACKWELDER. It filled with water about 2 years ago, I guess. Construction continued throughout the 1970's on it.

Senator NICKLES. Any other comments?

Dr. BLACKWELDER. And one final. We would believe that in the case of the Nevada pump casings that that money could be reimbursed by local beneficiaries and that that should be their responsibility. The Federal Government, by our figures, has spent over $169 million on that project. And in lieu of that very generous upfront capital investment, $1.5 million is rather modest in comparison and should be incorporated in some repayment schedule.

[The prepared statement of Dr. Blackwelder follows:]

ENVIRONMENTAL POLICY CENTER
317 Pennsylvania Ave., S.E., Washington, D.C. 20003
202/547-5330

TESTIMONY OF DR. BRENT BLACKWELDER
OF THE
ENVIRONMENTAL POLICY CENTER
BEFORE THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
MONDAY MAY 2, 1983
CONCERNING S. 622, S. 662, S. 818 and S. 805

The Environmental Policy Center is a national conservation organization concerned about cost-effective, environmentally sound water development. We appear here in opposition to S. 622, (Bureau feasibility studies) S. 662 (Dallas Creek Project), S. 818 (Nevada Pump Casings) and S. 805 (Santa Margarita Project), as these bills are presently written. We have a much more cost-effective agenda and alternatives for the Committee to consider.

DALLAS CREEK (S. 662)

Sponsors of the project are seeking relief from the standard repayment requirements which all users of municipal water from reclamation projects must pay. They argue that they entered into a contract in 1977 agreeing to a $38 million ceiling on repayment for municipal supply. Now it is estimated that actual repayment charges will be double that amount, and the sponsors contend that they are not obligated to repay. We contend, on the other hand, that the contract ratified by an outgoing bureaucrat will not stand up in court because it illegally imposes a ceiling on repayment in contravention of reclamation law. Furthermore, Congress should not tolerate this type of bail-out because it will be an invitation for sponsors of the Dolores project, also in Colorado, and the Bonneville Unit of the Central Utah Project to seek the same sort of relief. In both cases repayment charges for municipal water are far in excess of what the sponsors are ready to repay or have voter approval to repay.

In addition to the specific objections to bailing out the Dallas Creek project, there are substantial reasons why Congress should simply moth-ball this project: 1) its economic justification is highly questionable according to a 1981 G.A.O. report, 2) it would exacerbate salinity problems in the Colorado River, 3) there are unresolved problems about whether the drinking water to be provided will be loaded with heavy metals, 4) the water can be much more beneficially used downstream and Colorado residents should be compensated at a far higher rate of return than they would ever obtain from the project, and 5) local communities could become much more efficient in their use of water.

We will discuss each of these objections.

The General Accounting Office in its March 13, 1981, report entitled "Federal Charges for Irrigation Projects Reviewed Do Not Cover Costs" analyzed the Dallas Creek project as one of six reclamation projects it examined.

G.A.O. had this to say:

> The Bureau of Reclamation's "failure on this project to do with-versus without-project analysis is a serious omission and masks the actual situation of no demonstrable increase in output because of the project. Because of this lack of increased production, there would be no increased income to cover any increase in costs. We could therefore conclude that the farmers would not have paid the interest-subsidy price of $29 an acre-foot for Dallas Creek water, let alone the full cost price of $104 an acre-foot. They would be economically better off not to buy such small amounts of additional water at these prices." (p. 87)

G.A.O. found the Bureau's economic analysis so flawed that it stated if the Bureau's "ability-to-pay analysis is accepted, the farmers should be paying $17 to $22 an acre for all WPRS (Bureau of Reclamation) water, no matter what the source." (p. 87)

G.A.O. went on to say that the Bureau "does not even know which acres will get the water. They presented to the Congress a figure of 20,850 acres in the annual Project Data Sheets, but do not actually know which crops on which acres will receive the water." (p. 86).

While there is not time to go into all the problems G.A.O. noted with this project, the questions we have just presented are so serious that we believe that G.A.O. should be asked to appear before the Committee to describe its findings in more depth.

The United States is currently spending a lot of money on salinity control projects, including the expensive desalting plant at Yuma. The Dallas Creek project will make a small increase of 2.7 mg/l in the salinity of the Colorado River at Imperial Dam. The Bureau of Reclamation, however, estimates that even small increases are costly. Each milligram per liter increase the Bureau says will cause $500,000 in damages downstream. These damages occur to crops, equipment, plumbing, etc. When the telling economic objections to the Dallas Creek project are added to the salinity costs to be caused by the project, the case for moth-balling this project is further strengthened.

The Dallas Creek project involves the construction of Ridgeway Reservoir as a municipal water supply. The Bureau of Reclamation contends that while mine drainage from abandoned mines upstream contains arsenic, selenium, lead, cyanide, managnese, and sulfates, these pollutants would not be a problem because "the reservoir would function as a sink or settling area for the various metals and sediments presently found in the project waters." (Final EIS p. C-2) Consequently, the Bureau argues that the quality of

water for municipal use would be better than it is presently from the Uncompahgre River. The Environmental Protection Agency found that the Bureau's conclusion was unsubstantiated:

> "EPA remains unconvinced that sufficient data or subtantiation is available to warrant these conclusions in the final EIS." (Letter October 28, 1976, from EPA Regional Administration to David Crandall, Regional Director, Bureau of Reclamation)

If the reservoir does not function as a sink, then drinking water standards would occasionally be violated and there would be a need for expensive treatment methods such as reverse osmosis. The cost of such treatment facilities would have to be borne by the local communities which are evidently hard pressed and cannot repay even half of the costs assigned to municipal water supply. One possibility exists for a transfer of better quality water from the Gunnison River. On January 17, 1977, an exchange agreement was entered into between the Tri-County Conservancy District and the Uncompahgre Valley Water Users Association but this agreement does not legally require such an exchange to be brought about, and it sets a ceiling of 1000 cfs on the amount of water available for exchange.

There is no doubt that water could be put to a higher value and more beneficial use downstream and that downstream users would be willing to pay Colorado substantially for a long-term lease. Residents of Montrose, Delta, Colona, and Olathe would derive far greater revenues from some sort of lease arrangement where $100 to $200 an acre-foot was being paid to them for this water.

The extremely high per capita rates of consumption in these towns are completely unnecessary. The City of Tuscon uses only 140 gallons a person a

day as compared with over 300 gpcd for these towns in the Dallas Creek area. By becoming more efficient in their use of municipal water, they will have ample supplies far into the future. For example, the rate structures in Delta and Montrose encourage excessive use. They could adopt increasing block rate structures such as Montgomery and Prince Georges Counties in Maryland did when they were faced with shortage. Other communities throughout the nation have successfully and easily reduced daily per capita consumption. The Environmental Policy Institute's report Survey of Water Conservation Programs in the Fifty States/Model Water Conservation Program for the Nation outlines 13 areas in which communities can become more efficient in their use of water. Thus, there is clearly no need for Dallas Creek either for agriculture or for municipal purposes and residents of the area would be far better off with the additional income provided by a long-term lease.

Finally, the question of sunk costs should be discussed. Total project cost is estimated at $143,709,000 according to this year's submission to the Appropriations Committees, of which $60,651,648 has been alloted to date. This leaves over $80,000,000 left to be spent. We surely should not throw good money after bad. It's time to moth-ball Dallas Creek and spend just a small amount of money on water efficiency measures in the area.

FEASIBILITY STUDIES (S. 622)

We are opposed to this legislation unless there is a provision for at least 50-50 cost sharing in accordance with the level proposed for Army Corps of Engineers feasibility studies. Assistant Secretary of the Army for Civil Works William Gianelli has proposed that feasibility studies;

"be cost-shared with local project sponsors on a 50-50 basis with one half of the non-Federal share available in the form of 'in-kind' services if the parties agree."

The addition of cost-sharing to feasibility studies will help to insure selection of studies with a realistic chance of identifying a project that is cost-effective and has a reasonable chance of being built. S. 622 contains no cost-sharing requirements and thus serves as an affront to the Administration's effort to achieve some reform in cost-sharing on water development.

We wish to comment on two of the studies included in S. 622. The federal taxpayers have had to pay $324 million for construction of the New Melones Dam, and in the process one of the nation's most beautiful and heavily used canyons has been drowned. For the Bureau of Reclamation to come back to the taxpayers to get money to study the feasibility of constructing conveyance and distribution systems so that the water can be used is to add insult to injury. Is there going to be a never-ending string of expenses associated with the New Melones Dam?

The Prairie Bend study along the Platte River in Nebraska simply appears to us to be the Nebraska Mid-State Project warmed over. Voters decisively rejected the Mid-State Project in the 1970's.

NEVADA PUMP CASINGS (S. 818)

S. 818 provides that the Secretary of the Interior shall purchase twelve new stainless steel pump casings and minor appurtenant parts for the Robert B. Griffith water project, at a 1980 cost of $1,500,000. The cost of these pump casings would otherwise have to be born by local interests. We view the bill as an unnecessary subsidy at the very time we are trying to get beneficiaries of water projects to pay a greater share of project costs.

Local interests have asked for this subsidy because they contend that the need for replacement of defective pump casings was "at least in part" (to use the words of the House Interior Committee report 97-771) the fault of the Bureau of Reclamation. To place this expenditure in context, it is important to note that the Bureau of Reclamation has already spent $169 million on the Robert B. Griffith project (formerly known as the Southern Nevada Water Project). Why can't water users in the Las Vegas area afford to pay the cost of replacement pump casings, especially in light of the generous repayment provisions of reclamation law. This bill could set a very dangerous precedent for forgiveness of water supply costs. The more we subsidize water the more we encourage waste.

SANTA MARGARITA (S. 805)

We have a number of concerns about S. 805 on the Santa Margarita Project, most of them procedural rather than environmental. We testified on this project before your Committee last year. Since then we have acquired additional information on the project, which makes our case against the project even more substantial.

One of the reasons for moving this project forward seems to stem from the fact that the Fallbrook Public Utilities District has an allotment of 1 percent from the San Diego Water Authority's share of water received from the Metropolitan Water District. They have been receiving and using a much larger amount of water, more like four percent or five percent. When the Central Arizona project comes on line in 1985, if it holds to schedule, this area is going to get squeezed back to its legal share of 1 percent. This project is viewed as providing for the water lost to the state of Arizona.

One of our major concerns stems from the fact that there is still no economic feasibility report update on this project and that it is not due to be completed until April of 1984. Without this update we have no idea, nor does the Federal government, of whether this project is still economically viable. For instance, there could be hydrologic problems with the earthen DeLuz Dam since the last designs were drawn up in 1969. This could dramatically increase the costs of the project.

The Bureau of Reclamation would seem to concur on this point. The Bureau's FY 84 Budget document states:

> "A feasibility report on the project was submitted to OMB in June 1976. However, 10 years have elapsed since completion of the studies on which the feasibility report was based and there are concerns as to the current appropriateness of the dam design, water yield, economics, and wildlife mitigation of the project. There is also a need to update the geologic studies with a seismic analysis and to reevaluate dam design in light of current standards for seismic adequacy."

The conditional authorization of the Santa Margarita Project and the shoving of additional responsibility over to the Appropriations Committee is inexcusable and would be an abdication of the responsibility this Committee has to make sure that projects are socially, economically, environmentally, and engineeringly acceptable prior to authorization. To use an old expression, this Committee is being asked to authorize a pig-in-a-poke.

Furthermore, we object to moving the project forward at this time since the Fish and Wildlife Service report is not due to be completed until December of 1983. Preliminary information on the environmental consequences of this project, suggests that the river is a 27-mile continuous corridor of high quality habitat, over half of which would be inundated. The question of

what mitigation is going to cost and where it is going to take place is also of concern. The San Luis Rey River to the south has been mentioned as the leading candidate but this is already degraded by human activity and is incapable of supporting the diversity and productivity that the Santa Margarita nourishes. Our concern over mitigation is increasing given the rapid disappearance of valuable habitat all over the country and the failure of federal agencies to mitigate damages caused by previous other water projects.

Last year we raised a question concerning the acquisition of water rights for the project. In checking with the Bureau of Reclamation to clarify the point we made, we found that in effect there is an agreement that requires the Bureau to obtain water rights for the project. The Bureau does have the water rights for the project but there is a stipulation that the water be used in a certain time or the rights expires. The project has not been built since the first rights were acquired, and extensions have been granted several times. The Bureau must go before the California Water Control Board to obtain these. As we understand matters, the Bureau currently finds itself in one of these "expirations periods" so there is going to be a hearing on May 23 of this year for another extension. Even though some consider the granting automatic, there does exist the possibility that the Water Control Board would say 'no'.

We question the intent of any legislation whose design is to encourage and protect the production of high-value speciality crops, in this case avocados. One is led to believe that most of the avocados in the country come from the Santa Margarita area. The Los Angeles Times in November of 1982 quoted an owner of a packing firm in the area as saying "The basic problem is

that there is more fruit available than there is demand for the product." 1982 appears to have been the third bumper crop in a row. The article went on to point out that of the 7 million pounds of avocados on the market that year, over half came from Florida! So there are other parts of the country that enjoy the avocado growing business.

Also of concern to us is the role of the Secretary of the Navy in this project. Section 1 (b) of this legislation has the provision that "Any modification of omissions from, or additions to the plan for the purpose of furnishing a supplemental municipal and industrial water supply, supplemental irrigation water supply, flood control, regulation of imported water, recreation, or fish and wildlife enhancement shall be implemented only with the concurrence of the Secretary of the Navy." We would suggest that you may want to clarify what the Secretary of the Navy can and cannot do. Could he bring the project to a grinding halt because of concerns with one of these issues? We submit for the Committee's record the statement of the Resources Agency of California to Congressman Burgener last August 10, 1982.

Thank you for the opportunity to testify.

Senator NICKLES. Gentlemen, I appreciate your statements before the committee. And again, recognizing the fact that you appeared before this committee before on three of the same bills, I appreciate your statements and also your interest in this legislation.

Dr. BLACKWELDER. Thank you.

Senator NICKLES. Thank you very much.

Our next panel—and we hope to combine two panels—would be the panels who are interested in the Santa Margarita project.

We have Chase Untermeyer who is Deputy Assistant Secretary of the Navy. We have Lt. Gen. Harold Hatch, Deputy Chief of Staff for Installations and Logistics, Headquarters, U.S. Marine Corps. We have Leo McGuire who is president of the board of directors, Fallbrook Public Utility District; Gordon Tinker, general manager of Fallbrook Public Utility District and Lin Burzell, general manager and chief engineer, San Diego County Water Authority.

Gentlemen, thank you for your appearance, also for allowing me to combine the panel of people who have a great deal of interest and expertise on the Santa Margarita project.

So Mr. Untermeyer, would you care to take off? And again, all of your statements will be included in full in the record. Did you testify previously Mr. Untermeyer?

Mr. UNTERMEYER. No, sir.

Senator NICKLES. You didn't, but I believe the rest of our panel did. So we'll again submit your statements for the record so you don't have to repeat what's already been stated.

Please proceed.

STATEMENT OF CHASE UNTERMEYER, DEPUTY ASSISTANT SECRETARY OF THE NAVY FOR INSTALLATIONS AND FACILITIES

Mr. UNTERMEYER. Thank you, Mr. Chairman, for this opportunity to present the Department of the Navy's views on Senate bill 805. I also wish to thank Commissioner Broadbent, Lieutenant General Hatch, Senator Wilson, Congressman Packard and their fine staffs, as well as the representatives of the Fallbrook Public Utility District, for the hard work and cooperation that led to our being with you today.

As my predecessor stated last year, the need for a high-quality water supply for the Marine Corps base at Camp Pendleton is critical. The annual safe yield from existing onbase sources will be reached by 1986, and alternate water supplies from other southern California sources are rapidly diminishing.

One of the missions of Camp Pendleton vital to our national security interest is to act as a staging base for U.S. Marine Corps operations in the Pacific and Indian Ocean theaters. The camp's ability to increase its capacity in time of crisis will be severely restricted after 1986 if it is limited to the dwindling existing water sources. We also need to avoid multimillion dollar costs to repair flood control damage that occurs at Camp Pendleton almost annually.

Toward these ends, and to develop the U.S. Government's right to at least 7,000 acre-feet of water annually, the Department of the Navy announces its strong support for Senate bill 805 and its will-

ingness to pay its fair share of the project's construction costs. In pursuit of this goal, we are willing to work with the appropriate committees of the Congress and the Office of Management and Budget to devise a funding formula.

The Department of the Navy is also prepared, together with the Fallbrook Public Utility District, to provide the requisite land to the Bureau of Reclamation for this project. The benefits gained by guaranteeing a water supply necessary to the continued unrestricted use of Camp Pendleton will more than offset the loss of this land.

In summary, Mr. Chairman, the Department of the Navy strongly supports the Santa Margarita project, subject to the determination of its economic, environmental, hydrological feasibility by the Secretary of the Interior, with the concurrence of the Secretary of the Navy, as Senate bill 805 stipulates.

Thank you, Mr. Chairman.

Senator NICKLES. Thank you very much.

General Hatch, do you have any comments that you wanted to make?

STATEMENT OF LT. GEN. HAROLD A. HATCH, DEPUTY CHIEF OF STAFF FOR INSTALLATIONS AND LOGISTICS, HEADQUARTERS, U.S. MARINE CORPS

General HATCH. Given the opportunity. Thank you sir. I just wanted to acknowledge the importance of the Margarita project to the Marine Corps both from water over a longer term or flood control which imminently we've had 100-year flood problems there the last several years, more numerous than we would have anticipated.

Senator NICKLES. Pull the microphone up a little.

General HATCH. Which also includes a railroad which runs into the base. This railroad has been washed out in the recent floods. Of course, it's not going to be rebuilt until such time as we get flood control, either through other flood control measures or a dam put in there.

I would also like to note that we have a very fine record of protecting the environment in the Camp Pendleton area. Camp Pendleton has often been recognized, and certainly will work with the authorities protecting that environment that is going to be necessary in the determination of the location of the dam and its flood waters on Camp Pendleton.

Thank you, sir.

Senator NICKLES. Thank you very much.

Mr. McGuire?

STATEMENT OF LEO McGUIRE, PRESIDENT, BOARD OF DIRECTORS, FALLBROOK PUBLIC UTILITY DISTRICT, FALLBROOK, CALIF.

Mr. MCGUIRE. Mr. Chairman, I'm not going to repeat what Senator Wilson and Pat O'Meara has already discussed with you. And you have our testimony up there. I'm trying to give you a little of the background and also try to tell you a little of the background that we have gone through the last many, many years. And also,

we tried to do it on our own and wasn't permitted by court action to do it on our own. Now this goes way back years and years.

By court action we couldn't do it. And of course now the costs, we couldn't bear it.

I'm just going to give you a highlight of what you have in front of you there. As I said, I'm not going to bring it up to Wilson. But we had 57 years of water litigation on this situation. We have had hearings, studies, and a lot of frustration, believe me. The spirit of cooperation between the Reclamation and the Navy, the local Marine Corps and the entire district has never been better than right now.

In 1922, the Fallbrook Public Utility was established to provide a potable water system for the downtown area comprising of 500 acres. Then, in 1924, a group of local citizens created the Fallbrook Irrigation District. And from there it went on up.

In 1926 a suit was brought against the Vail by the Rancho Santa Margarita. And the matter was in and out of courts for 14 years. The Fallbrook Irrigation District attempted to resolve the issue by trying to develop a project to suit the needs of all concerned but was unsuccessful.

In 1940, the Vail Ranch and the Santa Margarita Ranch lawsuit was settled with two-thirds of the water rights going to the Rancho Santa Margarita and one-third to Vail Ranch. The next year Rancho Santa Margarita was purchased by the Navy Department and became Camp Pendleton. In 1951 the Federal Government brought suit against the Fallbrook Public Utility and 6,000 of its local citizens to quiet its title to its rights on the river. Local agreement was reached between the Marine Corps officials and FPUD that ended in 1954 in a congressional authorization of a bill, Public Law 83–847, is a single dam project known as DeLuz Dam on Camp Pendleton.

Unfortunately, for both agencies the U.S. Justice Department would not accept the 60/40 water allocation agreed to locally and pursued the matter further in courts. During this litigation, we purchased the 1,570 acres needed for the dam and the reservoir. At that time we're looking at a price of $667,000.

Senator NICKLES. What year was that?

Mr. MCGUIRE. 1959. So you can see, we've been going on for years and years and years on this situation. And now, I think, now is the year that we have to, I think, it's ready to go now. And I'm going at this time to turn this meeting over to Gordon Tinker. He's our general manager of Fallbrook Public Utility.

And thank you, Mr. Chairman.

[The prepared statement of Mr. McGuire follows:]

Statement of Leo McGuire, President, Board of Directors, Fallbrook Public Utility District

Mr. Chairman, I am Leo McGuire, President of the Board of Directors of the Fallbrook Public Utility District (FPUD). The people of Fallbrook appreciate this opportunity to discuss the need for the Santa Margarita Project. It appears there really may be a light at the end of the tunnel for this project after 57 years of water rights litigation, studies, hearings, re-studies and much frustration. The spirit of cooperation between the Bureau of Reclamation, the Navy Department, local Marine Corps officials and this District has never been better and the time is not only ripe, but it is reaching the point of absolute necessity to move forward with the construction of this project.

Let me give you a quick historical summary of the background of the project today then my General Manager, Mr. Gordon Tinker, will cover specific project requirements, and address the environmental issues surrounding the project. Next, the General Manager of the San Diego County Water Authority, Mr. Lin Burzell, will review for you the water supply situation from the County viewpoint, since we are totally dependent on the Authority for all of our current water supply. During my testimony last July 20, before your committee on S. 2684, I submitted for the record a more detailed summary entitled "A Compilation of Historical Data on Water Development in the Fallbrook Area", which your staff has for reference if needed.

First attempts at organized water development on the Santa Margarita River in the Fallbrook area began around 1891 with creation of a Fallbrook Irrigation District and approval of a $400,000 bond issue. Opposition led to protracted litigation and the District was declared illegally organized. Local citizens resorted to pumping from marginal underground wells for the next 30 years. During this period, olives, grapes, citrus, and avocado trees were the primary crops.

In 1922, the Fallbrook Public Utility District was established to provide a potable water system for the down town area comprising about 500 acres. Well water was the initial supply. In 1924, a group of local citizens again created a Fallbrook Irrigation District and applied for diversion and storage rights on the Santa Margarita River for a district of 10,000 acres. It was at this time that engineering investigations began in earnest and the current site of the Fall-

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brook dam was selected. The cost of the project at this time was estimated at $2,220,000.

But outside interests, namely the Vail Ranch to the east and the Santa Margarita Ranch to the west, were also attempting to develop their areas within the Santa Margarita basin and in 1926, suit was brought against the Vail Co. by Rancho Santa Margarita and the matter was in and out of the courts for 14 years. The Fallbrook Irrigation District (FID) attempted to resolve the issue by trying to develop a project to suit the needs of all concerned but was unsuccessful. The FID then turned south to the San Luis Rey River and attempted to develop spreading basins, diversion works, and well fields. Further legal obstacles arose and the poor economic situation of the 1930's hampered their efforts. In 1937, the FID voted to dissolve and was absorbed by the FPUD. In 1940, the Vail Ranch/Santa Margarita Ranch lawsuit was settled with 2/3 of the water rights going to Rancho Santa Margarita and 1/3 to Vail. The next year the Rancho Santa Margarita was purchased by the Navy Department and became Camp Pendleton. During WWII and shortly thereafter, the Navy Department conducted studies for diversion and storage facilities on the River to support the Marine training base. Simultaneously, the FPUD filed for and obtained diversion, storage, and appropriation rights on the Santa Margarita River upstream from Camp Pendleton. The District also purchased the Fallbrook dam site and portions of the reservoir site at this time. In 1951, the Federal Government brought suit against the FPUD and 6000 local citizens to quiet its title to their rights on the River. Local agreements were reached between Marine Corps officials and the FPUD that culminated in 1954 in Congressional authorization (PL83-847) of a single dam project known as DeLuz Dam on Camp Pendleton. Unfortunately, for both agencies the U.S. Justice Department would not accept the 60/40 water allocation agreed to locally and pursued the matter further in the courts. During the course of the litigation, the FPUD acquired title to the 1570 acres needed for the Fallbrook Dam and reservoir by negotiated purchases and condemnation through powers of eminent domain. All parcels were paid for by 1959 at a total price of $667,000. In 1961, with no progress being made in the courts, the District applied for a Small Reclamation Projects Loan to construct a dam at the Fallbrook site.

After many years of litigation concerning water rights on the Santa Margarita River, extending over a period from 1923 to 1966, the U. S. District Court for the Southern District of California entered its Modified Final Judgment and Decree on April 6, 1966. However, the many years of litigation had not produced a division of water between the Fallbrook Public Utility District and Camp Pendleton that would enable either to build and operate a separate project. The court retain continuing jurisdiction over water rights on the river and invited the two principal parties to seek physical solutions that would alleviate further controversies.

A Memorandum of Understanding and Agreement was signed by the Secretary of the Navy, Secretary of the Interior, U. S. Attorney General, and Fallbrook Public Utility District, on March 4, 1968, in which all parties agreed to an equitable division of the water predicated upon construction of a joint project involving dams and reservoirs at both the Fallbrook and DeLuz sites, if found to be feasible. The Memorandum of Understanding and Agreement was subsequently approved by the U. S. District Court on June 27, 1968, and incorporated in its Modified Final Judgment and Decree. Except for the two dams and reservoirs stipulated in the agreement, to be constructed, owned, and operated by the United States as a single project, there is no other presently known physical solution that would alleviate further legal controversies.

Gentlemen, we have needed this project for decades. Thanks to the efforts of others, the area has developed because of imported Colorado River water. But, as Mr. Burzell will explain, we can no longer rely on the level of supplies from that or other outside sources, after 1985, to meet all our needs.

We have already turned over our water rights to the Bureau of Reclamation for this project and stand ready to offer the 1570 acres as our up front contribution so that construction can begin.

Senator NICKLES. Thank you.
Mr. Tinker?

STATEMENT OF GORDON TINKER, GENERAL MANAGER, FALLBROOK PUBLIC UTILITY DISTRICT, FALLBROOK, CALIF.

Mr. TINKER. It's a pleasure to be back again, Mr. Chairman, and speak once more before this subcommittee. The frustration didn't end with the end of the court case in 1968, it merely provided a framework for this project. It took another 8 years of studies by the Bureau of Reclamation before we were in a position to move forward. And that brought us to 1976.

Unfortunately, with the Carter administration's policy toward water projects nothing happened for 4 years. At that point, when legislation was introduced to again move this project forward, people stood up and said, "Your studies are out of date. Back to the drawing board." So we're back in the study framework again.

And it's hard for me to really cope with a statement that it is premature at this date to go ahead with project authorization. The studies that the Bureau is currently doing right now should be looked on as an update and nothing new. I think you're going to see what comes out of it: a well-rounded fish and wildlife mitigation plan that is going to be managed between both districts. And particularly, I would like to stress the great record that the U.S. Marine Corps has had in terms of environmental management. And I would like to state, also, that I think their standards are probably higher than an awful lot of the environmental groups who wish to oppose this project. They've got a great record and I know it will continue.

The amount of local support for this project is well documented. I have a long list in the record. And if you would look at last year's record you would find numerous letters from individuals and community groups. We also now have the strong support of the State of California, the county board of supervisors, and all of the major wholesale water suppliers such as the county water authority and Metropolitan.

The district is in an ample financial status to repay this project. We're looking at a repayment of about a $50 million level. We have an assessed valuation right now at $472 million within the district. So we have ample capacity to repay it.

Our repayment schedule will be based about half on water sales and about half from storage benefit credits, acreage assessments, and existing property taxes. This will put the cost of the water in the reservoir to us at about $200 an acre-foot. The projected imported costs of raw water from the metropolitan water district for 1990 are $255 an acre-foot. When you add our treatment and pumping costs on top, we're looking at comparatively the same costs for project water from the Santa Margarita project as we are for the cost of imported water from Metropolitan. Somewhere in the neighborhood of $310 per acre-foot.

The water is expensive but it's well-used. We've had a history of good conservation, both agriculturally and in our domestic use. San Diego County has been a leader in the Nation in developing high

efficiency irrigation system that are being manufactured, used, throughout the entire world. Last year we had with us—and I'm sorry Jim Roberts is not here to testify today, but he was with us last year, he is the chairman of the State water committee of the State Farm Bureau and he is also a manufacturer of high-efficiency irrigation products.

The agricultural economy of North County is what we're really concerned about. A lot of people that are opposed to water projects have a no-growth attitude. And they feel that if water project development can be held up then there will be no growth.

I've never had anybody who wished to move out here from—out to southern California from the Midwest, call me and ask me if water was available before they moved. We do live in a free country and the ability for people to move as they see fit should be maintained. The growth is going to continue to occur. And what we're really concerned about is that the growth is going to occur in the cities in San Diego County as we see it continually to happen. The city of San Diego is growing. The city of Oceanside is growing. The city of Vista and the city of Escondido are growing.

If there is not additional water supplies made available the only thing that's going to happen the people will continue to come and agriculture will be forced out of business. Agriculture in San Diego County represents a $400 million a year business. And if you put the appropriate factor of about 2.4 on it, you're looking at a $ billion impact to the economy in San Diego County.

Specialty crops are grown that can be grown with this high-priced water and still be grown effectively. Even though we have seen the cost of water go up in the last 10 years, we're also seeing continued additional agriculture being put into production and being profitable.

I'd like to address some specific environmental concerns that have been raised. One is that of beach sand. The southern California beaches have had sand problems for years, and years, and years without this project. The issue was adequately addressed in the environmental study which is on the record in 1976. It was the result of a 40-year study done by the State department of water resources and it showed that this river only contributes about 4 percent of all of the sand coming out of the southern coastal streams.

I have also attached for the record an opinion of a Mr. George Borst, a soils scientist with 35 years' experience with the U.S. Department of Agriculture. In his opinion the gradient of the rivers, both the San Luis Rey and Santa Margarita, is so flat and the flat that the sea level has actually been rising over the last few thousand years, that in his professional opinion the only material that comes out of either of those rivers is the very fine silts and sediments, that the sand particles themself don't get closer to the ocean than about 2 miles.

Another issue that has come up is endangered birds. There have been two, specifically, that have been addressed: the Least Tern, which basically was saved from extinction by the actions of the natural resources department of Camp Pendleton. It nests and forages down at the mouth of the river. And that bird population has been expanding, primarily because of their results.

The Least Bell's Vireo is another endangered species that has been brought up as to be impacted by this project. You will find that the Fish and Wildlife Service studies that have just been completed indicate that they found 46 nesting pairs in the project site, 43 of them are located downstream from the lower reservoir.

The base intends to operate the ground water basin below the reservoir so that that habitat will be permanently enhanced and that bird species will not be impacted whatsoever by the project.

There are a few other endangered species that are involved. They are all at the mouth of the river and totally unaffected by the project.

The amount of habitat that's involved here represents about 8 percent of the same kind of habitat throughout the entire San Diego County. It is not a significant loss. In fact, Lake Hodges in Escondido is a good example of what happens when you build a reservoir; you find that the same kind of habitat springs up around the perimeter and you end up with four times, four to five times the total amount of nesting habitat that's available in the river itself.

I think we've waited long enough for this project and I think the time for it is here. We have the agreements. We're in concert with the Navy Department and the Bureau of Reclamation. And I just can't do anything but get frustrated when people say it's premature for authorization. And I certainly urge strong consideration for moving this bill to the floor of the Senate.

[The prepared statement of Mr. Tinker follows:]

Statement of Gordon Tinker, General Manager, Fallbrook Public Utility

Mr. Chairman, I am Gordon Tinker, General Manager and Chief Engineer of the Fallbrook Public Utility District. The District has been striving for decades to develop facilities that will exercise our long established rights to local sources of water. During the past 30 years we have been hampered in that effort primarily by the Federal Government as Mr. McGuire has testified. First there was the water rights litigation that took 15 years. Then after an agreement between all parties was reached in 1968, and 8 years of studies by the Bureau of Reclamation, in 1976 we felt confident that we were finally close to realizing our goal. Four more years of inactivity at the Federal level brought us to 1980 when authorizing legislation was introduced by Congressman Clair Burgener. Then a hue and cry arose from numerous environmental groups that our studies were out-of-date. In the fall of 1981, the Bureau of Reclamation began a two year effort to update these studies. This has been a mutual effort between the U.S. Marine Corps, the Fallbrook Public Utility District, and the Bureau. We We have just recently contributed $50,000 to the Bureau to keep these studies on schedule to make up for the Bureau's shortfall in their 1983 budget. We also have $8.35 million in land to donate as our up-front cost-sharing contribution to the project. A recent letter from Governor Deukmejian indicates strong support from the State of California and agreement that the present project proposal meets both the water supply needs and the environmental concerns of the region. Further delays in project authorization, in light of this project's history are very difficult to understand or accept.

The availability of a supplemental local water source from the Santa Margarita River is becoming increasingly important to the District's capability to meet all water demands. The long term safe yield from this project will provide between 30% and 40% of the Districts total needs.

The lack of local water storage capacity has been a matter of major concern to the District for many years. The combined storage capacity of the District is approximately 90 million gallons. Average daily consumption is 12 million gallons per day. Thus, reserve capacity on the average day is equivalent to an 8 day supply and during the summer, the reserve capability would be exhausted in 3 days. The Fallbrook Dam and Reservoir, as proposed in the Santa Margarita Project, would have a total storage capacity of 36,500 acre feet of water. Since the present annual water requirement of the District is approximately 15,000 A.F., the potential two year water supply in the reservoir could enable the District to meet any emergency requirements that would be generated by drought or by any failure of imported water delivery facilities that might occur anywhere in the State.

Local water users became very aware of the implications of the failure of water delivery facilities with the emergency shut-down that Metropolitan made in September 1977, due to the blockage of the Colorado River Canal by a land slide in the Desert Center area. Fortunately, the local curtailment of water for agricultural use lasted only a few days, but it was very apparent to the agricultural interests of the area, that a prolonged curtailment would have had a devastating long term economic effect on the community. Southern California water users again were made aware of the need for more storage in the South when the San Luis Reservoir in the San Joaquin Valley had to be drained for repairs in 1982.

The project has a very high degree of local support much of which has been renewed by the Farm Bureau and their concerns for both the future availability of water and the grossly inadequate amount of local water storage capacity. The following organizations have indicated support for the Santa Margarita Project by resolution, letters, and other actions.

Governor of California, State of California Legislature (AJR 66, 1979 and AJR 21 now before the Assembly)

San Diego County Board of Supervisors

Fallbrook Citizens Planning Group

Fallbrook Chamber of Commerce

Avocado Growers Bargaining Council

Fallborok Board of Realtors

Senior Citizens Service Club, Inc.

De Luz Heights Municipal Water District

Santa Margarita San Luis Rey Watershed Planning Agency

Fallbrook Hospital District

San Diego County Employees' Association

Fallbrook Republican Women's Club, Federated

The Rotary Club of Fallbrook

Soroptimist International of Fallbrook

Fallbrook Lions Club

Fallbrook Historical Society

Pala Mesa Village-Homes Association

In addition to the above formal actions, many individuals have written personal letters to their elected representatives in the U.S. Congress and the State Legislature urging their support of the Project and the enactment of legislature for its authorization and construction.

The financial obligations of the District in connection with the Project consist of repayment of certain Project costs attributable to the benefits the District will receive. These consist of purchasing water from the Project in lieu of purchasing imported water, water regulation costs for storage and amortization of the costs of recreational facilities. Water costs would be based on repayment of the investment costs by a contractual arrangement with the Bureau of Reclamation covering a 40 year period. About ½ of our anticipated annual repayment costs of $2,000,000 will be paid from water sales and ½ from storage benefit credits, water availability charges, and existing property taxes. This will put the cost of water in the reservoir at about $200/AF. Projected imported water costs from MWD in 1990 (expressed in 1983 dollars) are $255/acre foot. The large increases from imported water are due to renegotiated power contracts which expire on the State Water Project in 1983 and on the Colorado River in 1987. Electricity contracts will see rates increase from 1.5-2 mil/kwh range to 20-30 mil/kwh range. It can only be concluded that the Santa Margarita Project will be a highly economical source of local water for the next 50 years, particularly in light of the unknown costs of development of future northern California projects and pumping costs to get the water here. The reservoir land owned by the District will be made available as an up-front contribution and lower the repayment requirements for the regulation storage benefits. This land is currently appraised at $8,350,000. Recreational benefits would be repayed by user fees.

During its more than 50 years of existence, the District has continually operated on a very fiscally conservative basis. The current bonded indebtedness of the District is less than $1 million and the assessed value of land and improvements within the confines of the District is currently over $470 million, and despite the assessment limitations imposed by Proposition 13, the assessed value of the District increased 23% in 1979-80 and 15% in 1980-81. Thus, the assumption of a $50 million contractual arrangement to be paid over a 40 year period would not appear to be financially unrealistic. In January, 1979, the District sold a bond issue of one million dollars and in so doing published a prospectus that received very favorable consideration from the private financing world. The bonds not only sold at a very favorable interest rate, but they also received a AAA rating.

As a related matter of economic interest to the District and its water consumers, the cash value of water in the Santa Margarita River passing Fallbrook

and discharging to the ocean should be taken into consideration. In accordance with the records compiled by the U.S. Geological Survey, the flow in the River at Fallbrook in 1968-69 was 72,270 A.F. and at Camp Pendleton, a total of 116,800 A.F. was recorded. At current rates of imported raw water of $124/A.F., this translates into $8,961,480 flowing past Fallbrook and $14,483,200 flowing through Camp Pendleton in one season. At $255/AF this equates to almost $30 million in lost local water.

Of equal significance with the economic aspects of the Project, is the energy saving potential for making full utilization of local water supplies in lieu of importing water. The State Department of Water Resources is concerned about the availability of electric power, regardless of cost, to move water from Northern California to Southern California after the expiration of its present power contracts in 1983. To place the energy requirements for delivery of water to this area in perspective, the following indicates the relative magnitude of the heights to which water must be pumped to be used locally. State Project water, 4,000 feet; Colorado River water, 1,800 feet; and from the proposed Fallbrook Reservoir, 600 feet. Thus, regardless of any other economic aspects of the Project, the energy conservation potential for using local water in lieu of imported water would appear to be very significant.

In view of the interdependence of water, the preservation of the agricultural economy of the area, and the protection of capital investments, one could, if philosophically inclined in considering the cost of water, examine the alternative of the cost of not having water. It is not difficult to rationalize that this latter alternative might well have a devasting impact on the economy of the entire area.

The history of water development projects in the West is filled with reclamation projects that opened up new lands for agricultural development and have provided this country and the world with an abundance of food, jobs, and prosperity. Benefits pumped back into the economy have far exceeded the costs to the taxpayer for the capital investment.

San Diego County's agricultural production in 1981 totaled $439,741,000, which included $94,051,000 in nursery products, $88,940,000 in tomatoes, $66,355,000 in eggs, $44,876,000 in avocados, $30,248,000 in milk and $20,620,000 in Valencia oranges.

It should be of interest to this Senate Sub-Committee that San Diego County is a major agricultural County and ranks 23 in the United States in agricultural production.

The Santa Margarita project is needed, not to open up new lands for production, but to ensure the continuity of the existing agricultural economy in North San Diego County. This economy has been built up over the years with over 95% reliance on imported water from the Colorado River. The State of California has partially developed a state wide water system that, if completed, would be able to replace water lost from the Colorado River to Arizona. However, the voters have defeated construction plans for a Peripheral Canal which will restrict the State's ability to move the water from its source in the North to the demand in the South. Because of State water law, municipal and industrial uses of water take precedence over agriculture during droughts and other water shortages. The permanent avocado and citrus crops in the Fallbrook area cannot survive even short term water shortages. Summer irrigation is required on a 4-5 day cycle and sometimes as frequently as every other day during hot, dry, desert wind conditions. Existing local shortage of 2-½ days is not much of an insurance policy against potential outages.

We recognize that the cost of water from this project will be high, but so will the cost of imported water from sources unknown at the present time. Almost all the cost of imported water is the pumping energy to get it here and we in San Diego County are all too aware of the cost of electricity today.

San Diego County is devoted to maintaining its rural character and agricultural emphasis. Without a reliable, assured water supply, the entire region is in for drastic changes, including significant loss to the economy if agriculture is forced to dry up. The availability of certain crops in the United States would also be in jeopardy because, as I pointed out earlier, avocados, tomatoes and nursery products are major crops for San Diego County. Two of these crops, avocados and winter tomatoes, are marketed in the entire United States. In the case of avocados, the lost production could not be replaced. Basically, the same could be said for winter tomatoes unless more winter tomatoes could be imported from Mexico or grown in greenhouses. Because of the high cost of heating in the colder areas of the United States, many greenhouse and nursery operations are relocating in Southern California with a high percentage coming to San Diego County. Speedy favorable action on this legislation, followed by construction appropriations will stabilize the agriculture future of the Fallbrook area.

Agricultural water conservation practices in the United States were started in San Diego County through the use of drip-trickle and micro-irrigation.

Drip-trickle and micro-irrigation have been developed and perfected in San Diego County. For 13 years farmers in our county have been using these new irrigation techniques and today farmers consistently use 10% - 50% of the water required to grow identical crops in other parts of the country. In fact, the crops grown using these water saving irrigation systems are premium crops commanding higher than average prices.

The efficient use of water along with San Diego County's superior climate and the resulting superior crops indicate that there will always be large agricultural production in the rural areas of the county.

We have seen a continual escalation in water costs along with a yearly increase in acreage devoted to agriculture. County wide returns from agricultural production are steadily increasing and it would appear to be a reasonable assumption that agricultural water use would continue as anticipated for the foreseeable future.

The most important factor for agriculture is having an adequate supply of water and certainly the Santa Margarita Project will go a long way toward solving this problem.

Since the release of the Santa Margarita Project Feasibility Report approximately 10 years ago, it has been subjected to many reviews and comments by Government agencies, concerned citizens, and special interest groups including Sierra Club, Friends of the Earth, Friends of the River, Mountain Defense League, Citizens Coordinate for Century 3, California Native Plant Society, and the Audubon Society. The comments of the special interest groups have been general in nature, filled with emotional rhetoric, and not based on any particular bit of factual data. Since the purpose of their comments would appear to be one of generating public opposition to the construction of any water supply facilities, an attempt has been made to summarize data and comments that could be useful in responding to the claims that have been and will continue to be made by those who are opposed to construction of any such facilities.

The following topics have been discussed at public hearings and by reviewing agencies concerning the Santa Margarita Project. Detailed review of each of these topics was submitted for the record at last years hearings on S. 2684.

I. Beach Sand
II. Free Flowing River
III. Migratory Birds
   A. Bells Vireo
   B. Waterfowl in general
IV. Growth Inducement
V. Benefit of the Affluent
VI. Indian Water Rights
VII. Recreational Activities
VIII. Water Conservation
IX. Water Reclamation
X. Non-Structural Alternative

I would like to briefly discuss the first three items that have been of recent concern.

The City of Oceanside and other coastal communities have had beach erosion problems for years and the Corps of Engineers has been actively studying solutions to the problem. I understand there is a project in their 1983 construction program to finally accomplish this. The relative mixture of stream delivered sand and that from erosion of beach front bluffs has never been resolved. At any rate, the State of California produced a report which is included in the 1976 Environmental Statement on this subject that shows the Santa Margarita River as only contributing an average of 14,800 cy per year, whereas the San Luis Rey River contributes 351,500 cy per year, or more than 20 times that of the Santa Margarita River. Extensive commerical sand mining operations have been in existence on the San Luis Rey River and continue unabated today with no hue and cry from the public as to their detrimental effect on the beaches. Another review of this issue has been recently conducted by Mr. George Borst, a retired soils scientist with over 30 years experience with the Soils Conservation Service of the U.S. Department of Agriculture. His report is attached for the record and contends that due to the very flat gradient of both the Santa Margarita and San Luis Rey Rivers, only very fine sedimentary materials are carried to the ocean and the bed load sand sediments are not found in the stream beds until you get at least two miles inland. Because of the recorded historical nature of flows in the Santa Margarita River, it is highly doubtful that construction of this project will have any measurable impact on beach problems which have existed for many years without the project.

The Santa Margarita River has been referred to as the last free flowing river in San Diego County. In reality, it has been a raging flood or a nearly dry stream bed and its value as a recreational or esthetic asset is marginal at best. Fishing has been curtailed over the years as the State Department of Fish and Game found that trout had a very difficult time surviving due to lack of pools in which to live. Trout plants have fallen from 2600 in 1978 to 400 in 1980 and zero in 1981. Creation of two reservoirs with a put and take trout program coupled with development of a permanent self-sustaining warm water fishery is a significant improvement in the recreational fishing of the region. The only fish species found in recent studies are near the mouth of the River in the estuary and would be unaffected by the project.

Two species of migratory endangered birds have been brought up as threatened by the project. The Least Tern nests at the mouth of the River at Camp Pendleton and has been protected by the highly successful Natural Resources Program at the Base. Not only has the Marine Base saved the bird from extinction, but by careful management of their ground water basin, they have assured its future with or without the project. The Bell's Vireo is a migratory bird, not yet accepted on the endangered species list, which nests in the dense willow habitat in the river basin. Almost all of the 46 nesting pairs found in last year's study are below the project site and unaffected by the project. The primary reason the bird is endangered is due to nest parasitism by the brown headed cowbird. At any rate, when the river floods, this habitat is totally flattened and eliminated for the next nesting season. With the reservoirs providing flood control protection, the downstream habitat will be protected and the bird's breeding areas permanently enhanced. It has been the experience in San Diego County, that this same type of habitat will reappear around the perimeter of the lakes within 2 years of filling. Other special status species such as the Light-footed Clapper Rail, Brown Pelican, Willow Fly-Catcher, and the Belding's Savannah Sparrow have only been found between the ocean and a few miles inland, well below the De Luz dam site and thus unaffected by the project. It is the intention of Camp Pendleton to operate their 24,000 AF ground water basin below the De Luz dam site after the project is constructed just like it is today with releases from the Reservoir. This will provide permanent protection and enhancement to the habitat for these species. It is also noted in the documents appended to my report by both a local Audubon Society member and by a retired U.S. Fish and Wildlife Service biologist, that we should experience a significant increase in migratory birds, such as ducks

and geese, stopping on the lakes during their annual movements along the Pacific flyway. Mr. Dunlap's report goes on to state in detail why the project is an enhancement to bird life and not a detriment.

In summary, the need for the Project facilities to provide a supplemental local water source and emergency storage capability is becoming increasingly important due to possible future water supply curtailments and the lack of a reserve water source to protect the continually increasing agricultural investment in the community.

There is a very demonstratable degree of local support for the Project. The economics of the Project are as good or better than future imported water costs. There is no indication that the agricultural water requirements of the District will diminish in the foreseeable future. Regardless of the other economic aspects of the Project, there is a very definite energy conservation potential in the use of local water in lieu of imported water. The environmental issues surrounding the project can be reasonably mitigated with no significant long lasting impairment to the region. I am confident that the current effort underway by the Bureau of Reclamation to update the economic and environmental aspects of the Feasibility Report will show the benefit-cost ration equal to or better than before. I urge your speedy favorable action on S805 so that final planning and design can begin on this project that is so vital to the well being of our District and the Marine Corps.

George Borst
SOIL SCIENTIST
[illegible] BROOKE ROAD
FALLBROOK, CALIFORNIA 92028
(714) 728-6298
SOIL & DRAINAGE INVESTIGATIONS AVOCADO ROOT ROT CONTROL

My name is George Borst. I am a retired Soil Scientist with 33 years of professional experience with the Soil Conservation Service, U. S. Department of Agriculture. I have lived in Fallbrook, California, since 1969 and am intimately familiar with the soils along coastal streams in San Diego County.

Sand transport should be distinguished from the transport of smaller sized particles, which are carried in suspension by streams. Sand, on the other hand, is carried as bedload material, and is transported by a rolling action of moving water on the bottom of streams.

The theoretical basis for this mechanism of bedload transport has been defined by the "Einstein Equation", which considers a number of factors affecting this process. One of the most critical of these is stream slope or gradient. When this becomes zero, bedload transport ceases and only fine-textured sediments can be carried by the stream. This can be verified by examing alluvial sediments along the estuaries of the San Luis Rey, Santa Margarita, and other streams entering the ocean on the California coast.

I first became interested in this process as a soil scientist for the U. S. Department of Agriculture, Soil Conservation Service, when classifying and mapping the alluvial deposits in the lower San Luis Rey River valley. Since my retirement from the soil survey, I have been engaged in a similar capacity by several other agencies, most recently in classifying soils in the Tia Juana River valley for the City of San Diego.

The recent storms and high surf that have caused extensive beach erosion and property damage have given new urgency to questions of public policy affecting the coast.

Scientists at Scripps Institute of Oceanography have pointed out that these storms represent a return to a more normal pattern of winter weather, that follows a period of relative calm during the past 30 years.

The level of the sea has been rising at the rate of about six inches per century since the melting of the continental glaciers at the end of the Ice Age, about 12 thousand years ago. This process is continuing, perhaps even accelerating at the present time. This rising level of the sea has caused extensive erosion of the shoreline, that becomes manifest when high wind and surf coincide with high tides, as they have done in recent weeks.

All of the sand along the shore is derived from this process of sea cliff erosion. It is most abundant where the shoreline consists of soft, poorly consolidated sediments that are easily attacked by the waves, and meager where harder rocks are exposed. Construction of seawalls that protect the cliffs, and jetties that intercept the southward migration of sand along the shore cause loss of sand from the beach. Contrary to popular opinion, this sand is not derived from stream sediments on our coast. Sand can be transported by streams only along the bottom as bedload, in contrast with finer soil particles - silt and clay; which can be carried in suspension.

It can therefore only be transported where the stream has sufficient gradient to carry this bedload. The San Luis Rey River has established sufficient gradient to carry sand to within about 6,000 feet for the coast.

The mouth of the river consists of an estuary, however, where there is insufficient gradient to enable the river to transport sand to the beach. It is similar to the other major streams on our coast, which terminate in coastal lagoons or tidal flats.

No sand has been deposited on the coast since the close of the Ice Age, when these estuaries were created by the rising level of the sea.

Deposition of sand in the lower Santa Margarita River Valley follows a pattern similar to that in the San Luis Rey, aothough it has not reached as close to the coast.

This is because the gradient in the lower part of the valley is insufficient to transport much coarse sediments to the coast. Only finer-textured sediments that can be carried in suspension by moving water are deposited in the lower part of these river valleys and are carried out to sea in flood stage.

Objections have been made to the construction of dams on the Santa Margarita on the basis that they would prevent replenishment of sand on the beach and accelerate erosion along the coast. These objections are totally without foundation. Neither the Santa Margarita nor the San Luis Rey has contributed sand to the coast since the rise in sea level that occurred at the end of the Ice Age, about twelve thousand years ago.

George F. Boost

April 27, 1983

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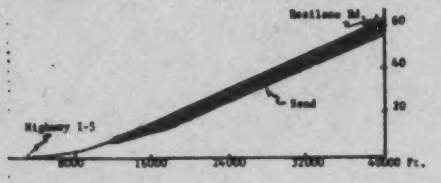
RESOURCE CONSERVATION DISTRICT NEWS



Profile of lower Santa Margarita River valley, west of Basilone Road.

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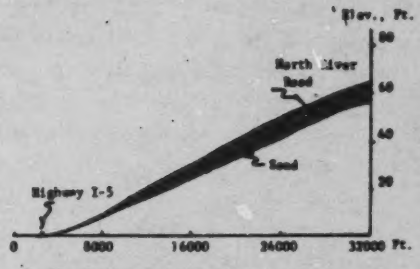


Profile of Lower San Luis Rey River Valley, west of the Mission, showing area of deposition of sand.

Merritt S. Dunlap
843 Stone Post Way
Fallbrook, Ca. 92028

April 26, 1983

My name is Merritt S. Dunlap. I have been a member of the National Audubon Society for over 45 years and continue to enjoy birding in my retirement years in Fallbrook, California. I have been acknowledged as a contributor to "A Field Guide to Western Birds" by Roger Tory Peterson, and have birded in the east with him; and am listed as a contributor to Arthur Cleveland Bent's 23 volume "Life Histories of North American Birds" published by the Smithsonian Institution. I assisted in gathering material for Bulletins by A. L. Rand for the National Museum of Canada on Birds and Mammals of the Canol Road, Yukon and Northwest Territories. From the perspective of a long time birder I would like to present my views on the impact of the construction of the two dams and reservoirs on the Santa Margarita River. Contrary to some poorly researched reports which state that they will destroy invaluable riparian woodland, there is no such habitat of value along the Santa Margarita Canyon bottom.

The community of Fallbrook lies between the Santa Margarita and San Luis Rey Rivers, bounded on the east by highway I-15 and on the west by Camp Pendleton. Most of the improved area lies between elevations 400 and 1000 feet above sea level. Types of environment include chaparral covered hillsides, open greenlands (golf courses) and reparian woodlands. A large part of the area is planted in groves and orchards, generally unsuitable for natural wildlife.

Whereas the San Luis Rey River has a fairly large bird population, the Santa Margarita does not. This is due largely to the former going through relatively flat terrain with wide shoulders, having flat wading areas and large ponds. The Santa Margarita River on the other hand frequently goes through steep canyons, and is not blessed with any of the type habitat preferred by both migrating and resident birds.

Construction of both the Santa Margarita and DeLuz dams will definitely improve the total environment, and increase wildlife manyfold. The river elevation at the Santa Margarita dam site is approximately 300 ft. and the elevation of the reservoir shore line will be 450 ft. By actual count the number of bird species triples from 300 ft. to 450 ft. in the present river area. The part of the river that will be inundated behind the dam is 4 miles long. The reservoir will have a shore line of 20 miles, 5 times the length of that now in existence,

and will provide 612 acres of water surface. It is quite possible that the reservoir and adjacent planting will attract 170 species of birds where 45 can be expected now at present river level, an increase of 277%.

The DeLuz dam in Camp Pendleton will inundate 7 miles of the river and replace it with 34 miles of shore line, almost 5 times as much, and have 1549 acres of reservoir surface at normal high water line. The tremendous increase in both natural and introduced vegetation can well expand the normal bird population of this area from 38 species to 150, or +295%. With the construction of either dam not one species will be eliminated.

On the lower Santa Margarita there are 2 endangered species of birds, both nesting far below either dam. One is the Least Tern. The State of California has sponsored a number of years of study and protection of this bird. There are 25 nesting colonies in the state, including 3 in San Diego County. This study ascertained that in 1973 there were 600 nesting pairs, and in 1983 there were 1050, an increase of 75%. All colonies are doing well and increasing in numbers. A study made by the Fish and Wildlife Service of the Camp Pendleton colony in 1982 states that the nesting area is at the river mouth, and not inland along the river. The terns forage for food near the ocean while the juveniles are on the nest, and then forage inland as far as Lake O'Neill on the base, and another lake towards Vista. There is no reason they should not forage at the new reservoir, only a short distance from Lake O'Neill.

The other endangered species is the Bell's Vireo which nests in willow thickets in this area. However the nests are found from the ocean to the Marine airfield, well below the DeLuz dam. The Fish and Wildlife Service in a study made from 6 April to 10 August, 1982 states that 46 nesting pairs of Bell's Vireos were found along the river, the majority between Basilone Road and Stuart Mesa Road (far below the DeLuz dam site.) These birds rarely nest in the steep Santa Margarita Canyon, nor up the chaparral slopes. With the greatly increased vegetation around the reservoir, above the steepest slopes, the habitat should be excellent for expanding the local nesting range of the vireo and encourage its increase in numbers.

The Fish and Wildlife Service, as referred to above, made a checklist of birds between the same dates in 1982 at the Santa Margarita River project area. The list is all comprehensive and includes species that are very irregular and rare here, and a large percentage of which cannot at anytime be seen at the dam sites before or after construction. For that reason we are not referring to the list although it has been analysed and is of some ornithological interest.

Attached for further information are two articles written by Mr. Art Halloran, a retired U.S. Fish and Wildlife biologist, who supports my opinions that the reservoir will be an enhancement rather than a negative influence over the bird populations and habitat for the region.

Merritt S. Dunlap

Reviewing Ranges of Bell's Vireo

(By Art Halloran)

The exchange of words regarding Bell's Vireo between U.S. Fish & Wildlife Service biologist Ralph Pisapia and local rancher Cal Thomas reported in The Enterprise Aug. 30 (by Editor Bob White) prompted me to review the range of this small bird.

The occasion was the Aug 27 California Water Commission meeting held at Fallbrook concerning the Santa Margarita project.

As reported. Pisapia made a special point that "This rare songbird may be impacted by the . . . Project." He also stated that the largest concentration of this bird in the state is located in this area. He added that the birds are candidates for an endangered species list.

Rancher Cal Thomas, who is familiar with the bird in his yard, questioned Pisapia. Pisapia then admitted that he had neither seen the bird nor its habitat.

As a retired Fish & Wildlife biologist. I checked the scientific occurrence record of this bird. What follows is not easy reading, but is the basic truth concerning the widespread range of the four and one half inch Bell's Vireo,

I first noted this bird on May 7, 1968 in my own backyard at Lawton, Okla. My notes on the birds at this southwestern Oklahoma location are summarized in a story by myself and wife in the 1970 spring number of the magazine Oklahoma Today.

Bell's Vireo has black eyes, is olive-gray above with two light wing bars and whitish below with olive-gray flanks. Most of its diet is animal food. The insects eaten include caterpillars, beetles, spiders, and bugs. California ornithologists Joseph Grinnell and Tracy Storer found this vireo nesting in the Yosemite region. Singing males were also found in a mid river island in the Sacramento River two miles or so above Red Bluff. Singing males indicate nesting.

I have visited the well-kept avocado grove of Cal Thomas, which lies just above the Sandia Creek damsite, and noted the adjacent canyons full of native shrubs. Willows are plentiful in these locations. This is Bell's Vireo habitat and much of it will never be touched by the badly-needed water that will be stored by the Santa Margarita Project. But more about that later.

For those who delve into older bird books, the Bell's Vireo is sometimes called the Least Vireo. That is the name used by Arthur C. Bent in his 1950 U.S. National Museum Bulletin No. 197 entitled "Life Histories of North American Wagtails, Shrikes, Vireos, and Their Allies."

The most prestigious list of North American birds is The Check-list of North American Birds prepared by a committee of the American Ornithologists, Union. This reference in my library is the last word on North American bird ranges. Here is a direct quote on the range of Bell's Vireo:

"Breeds from the Great Valley of California, southern Nevada, central Arizona, southwestern New Mexico, western Texas, eastern Colorado, central Nebraska, southeastern South Dakota, Iowa, southwestern Wisconsin, and northeastern Illinois south to southern Texas and northwestern Louisiana. In winter from southern Louisiana (one specimen), southern Sonora, and southern Baja California south to El Salvador and northern Nicaragua."

Bell's Vireo is divided into four subspecies or varieties. One of these calls California its summer home. The difference between these varieties is minor. Field bird books such as Roger Tory Peterson's "A Field Guide to Western Birds" seldom differentiate between subspecies.

Here is a direct quote from the A.O.U. Checklist on the range of the "California" variety of Bell's Vireo:

"Breeds in California in the Great Valley (Red Bluff), Owens Valley (Bishop), Death Valley, Mohave River Valley (Victorville, Camp Cady), and the southwestern California (Santa Barbara, San Diego, Escondido) and the northwestern Baja California coastal area (Guadalupe, El Cajon, El Rosario, San Fernando).

"Winters in southern Baja California (Isla Santa Margarita, and La Paz to the Cape).

"Casual in central western California (San Mateo County) and southwestern Nevada (Ash Meadows)."

From the above it can be seen that the bird in question lives over a widespread area.

Arnold Small's 1974 classic, "The Birds of California" outlines Bell's Vireo range in the Golden State as follows: "range in California-breeds in coastal and interior Southern California (west of the deserts) and north through Central Valley to

Tehama County; also breeds in Owens Valley and Death Valley and lower Colorado River Valley."

Now let us go to the highly respected Cooper Ornithological Club publication by George Willett entitled, "A Revised List of the Birds of Southwestern California."

Here is a direct quote concerning Bell's Vireo from that publication: "Common in summer in willow regions from coast to foothills."

The canyons of the entire area of the Santa Margarita Project contain willows. These plants grow in abundance. As many who know the outdoors are aware, whenever water behind ponds or dams in this and other watersheds is impounded willows quickly spring up in abundance.

There is little question that as soon as the Santa Margarita Dam is completed willows will be abundant along the shores. Actually, Bell Vireo habitat could be improved.

Surveyors can easily predict where the water lines will be. There is now and will be when the dams are completed plenty of prime willow Bell's Vireo habitat above these projected waterlines. During construction the widely-spread Bell's Vireo will move up the canyons and then can return to home areas where the impounded waters will doubtless provide greater "willow-power" than now exists.

I certainly agree with Cal Thomas, whose property is a model of realistic conservation effort, that the Santa Margarita Project will not imperi' the Bell's Vireo.

Future Lake: Boon for Birds

(By Art Halloran)

Just for the fun of it let's imagine what will happen to Fallbrook bird life when Lake Fallbrook is a reality behind the long overdue Santa Margarita Dam just north of town.

Similar circumstances in other parts of the Southwest show us what will happen.

As it now stands, you can see more than a hundred kinds of birds right in our village. Many of these are generally classed as songbirds. Ducks, geese, and other water birds are kind of scare.

On March 27, 1935 my wife and I left the home of Jack and Elta Owens at what is now Alaturas and Ammunition and took the old unpaved road through El Rancho Santa Margarita y Las Flores to Oceanside. Reading from my notes of that day. "The ranch is mostly grazing country except for the bottomlands near ranch headquarters, which are under cultivation. Cattle and hog's are run on the range. The ranch is, therefore, in practically the same condition as in California's Spanish Days.

When we came to what is now O'Neill Lake we saw egrets, a great blue heron, coots or mudhens, gulls, and a white pelican. Today, particluarly during the winter, many kinds of ducks and other water birds can be seen at this attractive lake near the center of Camp Pendleton.

Birds fly over dry and semidesert areas and if water is present they come in to rest and feed.

Probably one of the clearest examples of this is at a small shaded spring-fed pond just inside Mexico at Quitobaquito (pronounced Keyto-va-keyto at the southwestern corner of the Oregon Pipe Cactus National Monument south of Gila Bend and Ajo in southwestern Arizona. Here in the middle of one of the driest deserts on the continent you can often see waterfowl and water birds.

If you ever visit this unique national monument take the time to visit Quitobaquito, the old-time home of the last of the Sand Papagoes. This offshoot of the Papago tribe occupied the land between here and Gulf of California. Quitobaquito is a true American oasis in this waterstarved land. On the adjacent Cabeza Prieta Game Range established to protect desert bighorn sheep there is but one natural spring on a million acres.

Old-time nature-oriented readers may remember that years ago (1936) a carefully-documented book of the birds of Nevada was published just before Boulder Dam was filled. With the completion of the dam water birds of all kinds flocked into Nevada. A whole generation of young bird observers promptly reported water birds formerly not known from Nevada.

Skeins of Canada Geese fly over Fallbrook in long V's, calling as they stream to their northern breeding grounds. When Fallbrook's lake is filled with otherwise wasted water, many more water-loving birds will rest, feed, and even winter here. It should be a fair bet to one day see Canada geese on the lake.

If the gas crunch continues (as our leader predicts) the kids of the future can go fishing without leaving the village except by skateboard, bicycle, roller skates or a foot.

And then there are the shorebirds such as tiny sandpipers, lesser yellowlegs, colorful black and white stilts, and far-ranging curved-bill curlew. These birds now winter along San Diego County beaches, but they also stop at fresh water lakes.

Years ago, while tracing flights of Canada geese from the Salton Sea northeastern over the Chocolate Mountains in southeastern California. I could see what watering places look like to a highflying bird. I was in a small plane piloted by a friend. As we left the Imperial Valley we flew high over brown and tan desert flats and mountains. And then we saw the Colorado River snaking to the Gulf of California. The river looked like a silver string fringed with green. Water birds seeing this would come planing down for a closer look.

And how can we be sure that these birds will be here? Actually they are with us now in small numbers and have been for years. San Diego County bird records back to the 1880s were collected by George Willet in 1933. He tells of pintails breeding at Lake Henshaw in the 1920s, wood ducks at Ramona in 1918, and blue-winged teal at El Cajon in 1881. These records and many more insure that Lake Fallbrook will be a water bird haven.

So the Santa Margarita Project when complete will enhance our bird life by adding a new dimension to this semi-arid land where water is essential.

Senator NICKLES. Thank you very much, Mr. Tinker.

Mr. Burzell, did you have any comments you wished to add?

STATEMENT OF LINDEN R. BURZELL, GENERAL MANAGER AND CHIEF ENGINEER, SAN DIEGO COUNTY WATER AUTHORITY, SAN DIEGO, CALIF.

Mr. BURZELL. Thank you, Mr. Chairman. I'll be very brief. You have my full statement on it.

The significance of my statement is that the historic supplemental supply that we have provided, we at the San Diego County Water Authority, have provided the Fallbrook Public Utility District and the obligations we have to provide water to the Camp Pendleton Military Reservation are in—no question about it, we have those obligations, but we are now in a much more unreliable position to fulfill those demands than we've ever been before.

The reason for that is that the agency that we get our water from, the Metropolitan Water District of Southern California is losing over half its supply in the Colorado River to the State of Arizona. That's a fact and we know that it's coming up now with the completion of the central Arizona project in 1985 and thereafter.

The other principal supply that we've been relying on in the State of California, the State water project, this enormous project that runs parallel to the Federal Central Valley project, has not been completed on schedule. It's at least 10 years, 15 years perhaps, before we'll get some of the major features of that supply. And so for the next decade and more we're faced with getting only about half the water that we were planning on from that project. So all of our studies and everything that we report to our member agencies like Fallbrook and Camp Pendleton and the city of San Diego, is that we cannot be relied upon as we have been in the past.

Accordingly, we're urging projects that have been on the shelf—the Santa Margarita projects are one of the best examples—and several others that we're working on so that that remaining water that we still have that runs off from our limited drainage that we do have and wastes in the Pacific Ocean can be conserved and put

to use. And we look at this as one of the very best of those projects. And the San Diego County Water Authority and Metropolitan Water District of Southern California urge the completion of this project.

[The prepared statement of Mr. Burzell follows:]

Statement of Linden R. Burzell, General Manager and Chief Engineer, San Diego County Water Authority

Mr. Chairman, I am Linden Burzell, General Manager and Chief Engineer of the San Diego County Water Authority (CWA). The Water Authority (CWA) was formed on June 9, 1944, under the County Water Authority Act to provide water for municipal, domestic, and other beneficial uses throughout the County of San Diego. Since its inception, the Authority has been providing approximately 90% of the water used in San Diego County from the Metropolitan Water District of Southern California (MWD), which owns and operates the Colorado River Aqueduct. All imported water came from the Colorado River until Northern California State Project water became available in 1977. The Fallbrook Public Utility District (FPUD), was one of the 9 charter member agencies of the County Water Authority which now member 24.

San Diego City and County have long enjoyed a close working relationship with the Federal Government, and specifically the Navy Department and the Bureau of Reclamation. As early as 1921, members of the City Council of San Diego first discussed the necessity of drawing on the Colorado River for water. In 1930, the seven-party water agreement was signed, and in 1933, contracts were signed with the Department of Interior that enabled the City and County of San Diego to share in benefits to be derived from construction of the Boulder Canyon Project (Hoover Dam). Numerous routes to get Colorado water into San Diego County were studied. Original plans were to run an aqueduct from the all-American canal near the Mexican border. Meanwhile, the Metropolitan Water District had begun construction of the Colorado River Aqueduct to bring water into the Los Angeles Basin, and had it in operation by 1941. Because of a critical situation in San Diego's water supply, which threatened to interfere with war activities in the City, President Roosevelt, on October 3, 1944, appointed an interdepartmental committee to study methods of augmenting San Diego's water supply. As a result, and under Presidential directive, the first pipeline of the first aqueduct was hastily designed by the Bureau of Reclamation, built under Navy Department supervision, it provided a connecting link from MWD'S Colorado River Aqueduct at the San Jacinto tunnel some seventy-five miles to the City of San Diego's terminal reservoir at San Vicente. Following the war, repayment agreements were signed to repay the Federal Government for the Aqueduct and subsequent operation by the CWA. In the following 35 years, the CWA has built 3 additional parallel

pipelines and a fifth is currently under construction. It is interesting that 35 years later the same interested parties once more are working together in providing a major water project in San Diego County.

Over the 38 year history of the CWA, all of its member agencies have been able to rely on the CWA for meeting their water needs. The Supreme Court decision of 1964, however, allocated a portion of the Colorado River being used by MWD to the State of Arizona. In 1985, the Central Arizona Project will complete its initial diversion and distribution facilities that will reduce Colorado River entitlement to MWD from 1,212,000 acre-feet per year to 550,000 acre-feet.

In the early 1930's, a state-wide water development and distribution plan was established and approved by the voters as the Central Valley Project (CVP). State bonds went unsold and the Federal Government stepped in and built the initial CVP facilities including Shasta Dam in Northern California on the Sacramento River and the Delta-Mendota Canal in the San Joaquin Valley. The CVP was built primarily to serve agriculture in the San Joaquin Valley. In 1960, the voters of California passed legislation initially known as the Feather River Project (Oroville Dam and the California Aqueduct), and now referred to as the State Water Project, setting in motion additional statewide water plans for capturing the heavy snowpack runoff in the Sierra Nevada's, for use in the San Joaquin Valley and Southern California. Contracts were signed between local water agencies and the two suppliers: The Federal Government for the CVP and the State for the State Water Project. The MWD would have been the beneficiary of about 50% of the anticipated 4.23 million acre-feet yield of the State Water Project and had anticipated obtaining sufficient water from that source to make up the loss from the Colorado River.

However, on June 9, 1982, the voters of California, in a very hotly debated referendum, defeated construction of the Peripheral Canal which would have provided capacity to move additional water through the Sacramento Delta. Without the Canal and other related facilities, the State Water Project will

be unable to meet the delivery committments. Time does not permit me to go into all the complexities of this issue, but starting in 1985, MWD will have less total water supply available to it than it sold in 1975, 1976, and 1980. The San Diego County Water Authority has entitlement, based on tax contributions to finance MWD's capital facilities, to 14½% of MWD's available water. The CWA has historically utilized about 24% of the available MWD water. The CWA may be the first loser as a result of MWD shortages. Within the CWA, Fallbrook is in a similar situation using about 4% of the CWA supplies with an entitlement to only 1%.

Another pending problem for MWD is the litigation in progress in the Owens Valley between local water users concerned with the Mono Lake Basin diversions being made by the Los Angeles Department of Water and Power. The State Supreme Court has ruled that the "public trust" doctrine is applicable to any Mono Lake diversions which affect its historic levels and has returned the case to a lower court for specific determinations. Any further court decisions against the City of Los Angeles will result in Los Angeles taking additional water from MWD. The city of L. A. has entitlement to approximately 23% of MWD's supplies whereas they have only been using about 6%. This could reduce MWD deliveries to other member agencies by as much as 100,000 acre-feet.

All of the above uncertainties relating to MWD supplies affect the SDCWA more than any other member agency. The accompanying charts from MWD's latest water supply study put the potential short falls in perspective. It is absolutely imperative that all additional potential sources of water within the San Diego County service area be developed as soon as possible.

The Santa Margarita Project has been studied for many years and is a long overdue project. While primarily beneficial to FPUD and the United States Marine Corps Base at Camp Pendleton, the large storage capacity in the project could free up imported water normally used by Fallbrook for other agencies in extended dry periods, thereby yielding a regional benefit of significant value. I understand that the needs of the Marine Corps Base will be such that, in the very near future, they will have to exercise their rights

to CWA water for the first time. This project will enable them to forego that claim for many more years. The County is investigating many other potential water sources including reclamation, desalting, and one other reservoir site. Relative economics environmental and health considerations of these other possible supplies are unknown but potentially very expensive. None of these projects have been studied to the extent of the Santa Margarita Project and it is the only one in a ready-to-go status.

The other key feature of the Santa Margarita Project, from the County Water Authority's viewpoint, is the storage capacity. Studies reveal that there are no major storage facilities in North San Diego County and yet over 30% of the total demand is north of the City of Escondido. This area accounts for 75% of the County's agricultural water consumption. A major storage facility in North County will provide another level of reliability against aqueduct outages and extended droughts. Peaking demands by agricultural users at the upper end of the CWA Aqueducts who has no local regulatory storage, are excessive and must be reduced. This project could help curtail much of the peaking problem.

The CWA strongly supports approval of the authorizing legislation and urges the Congress to follow it up with construction appropriations as soon as practical. At hearings last year on this project, I submitted resolutions of both the CWA and MWD Boards of Directors urging favorable action by the Congress on authorizing legislation for the Santa Margarita Project. Both boards still actively support authorization and construction of the Santa Margarita Project.

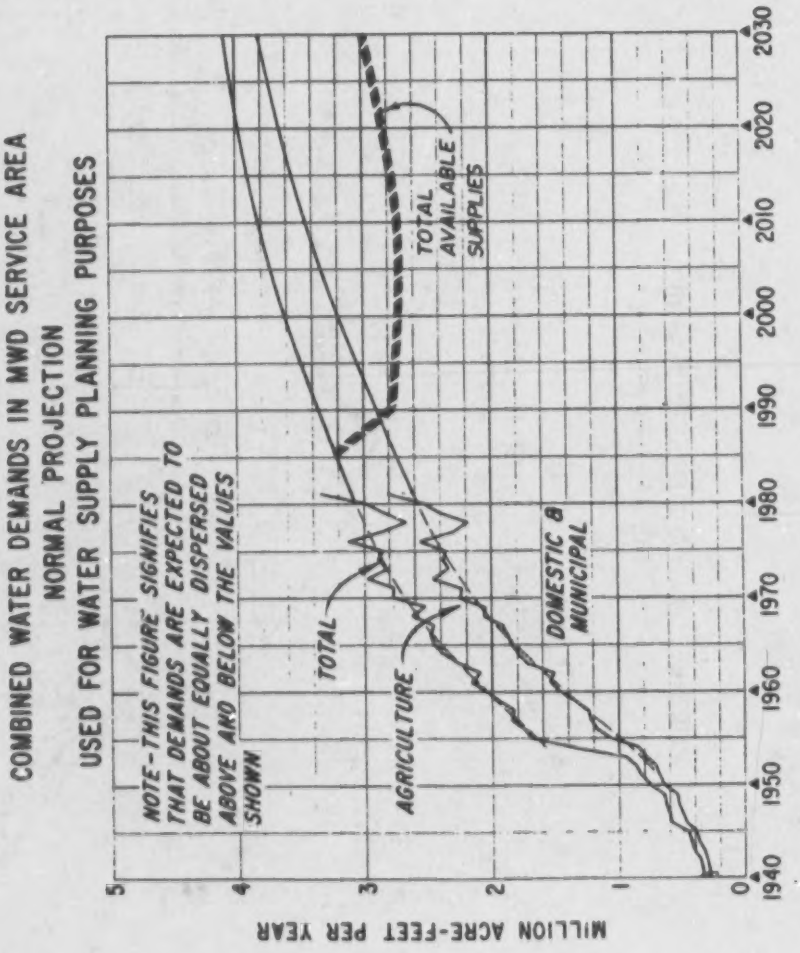
The Metropolitan Water District of Southern California

1982 POPULATION AND WATER DEMAND STUDY

REPORT NO. 946

IX-8

Figure 30

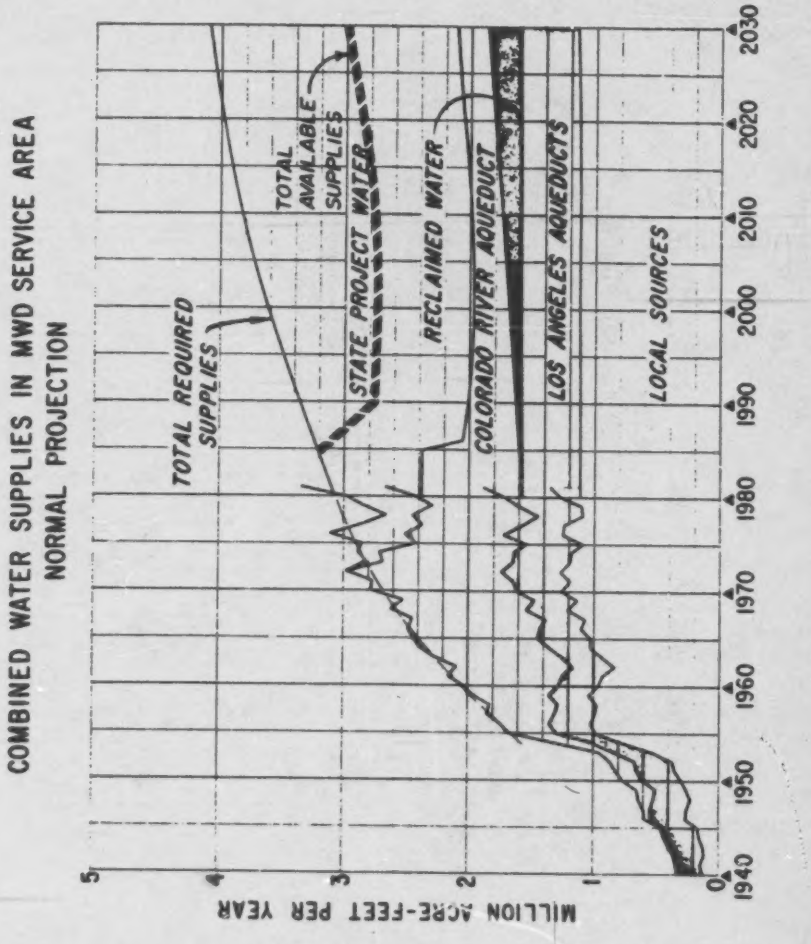


1982 POPULATION AND WATER DEMAND STUDY

REPORT NO. 946

IX-11

Figure 33

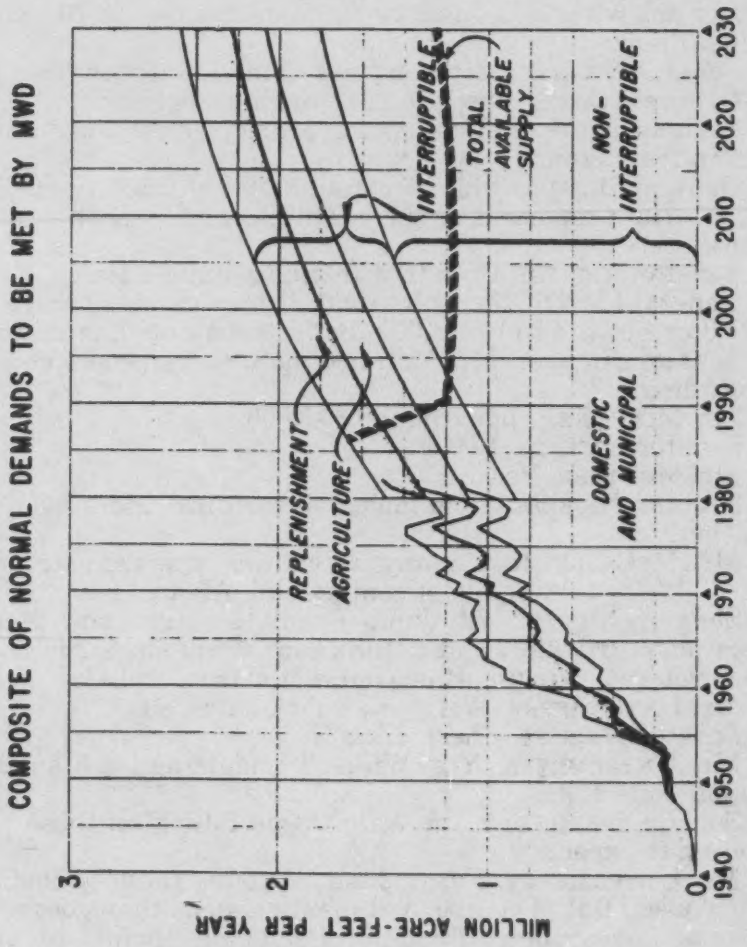


1982 POPULATION AND WATER DEMAND STUDY

REPORT NO. 946

IX-14

Figure 36



Senator NICKLES. Thank you very much, Mr. Burzell.

A couple of questions. And I might ask these to any of the panelists. I will I'd start with you, General Hatch.

You mentioned the problems that you had with flood control and I think I heard the term millions of dollars might have been lost on a fairly recurrent basis due to the floods. Do you have a dollar figure?

General HATCH. We believe the flood control eventual cost could be approximately $56 million, sir.

Senator NICKLES. Does that mean you could save that much?

General HATCH. If we had to repair what water damage has already occurred or which would occur again in heavy flood control situations without a dam, we estimate the cost to be approximately $56 million.

Senator NICKLES. How long has Camp Pendleton been there?

General HATCH. I believe 1942 was its origen.

Senator NICKLES. How many people do you have currently on Camp Pendleton?

General HATCH. Probably around 40,000 marines stationed there plus certain members of their families and civilian employees that work there.

Senator NICKLES. Does that fluctuate quite a lot?

General HATCH. Not quite a lot. It may go up as much as 4,000 or 5,000 or down 4,000 or 5,000. But it does not fluctuate very much.

Senator NICKLES. Mr. McGuire, how many people do you have in your district?

Mr. MCGUIRE. Approximately 15,000.

Senator NICKLES. 15,000?

Mr. MCGUIRE. Yes.

Senator NICKLES. How many agricultural users would you have in that?

Mr. MCGUIRE. How many agriculture users do we have? About 1,000. We're talking about commercial. About 1,000.

Senator NICKLES. At Camp Pendleton right now you're getting most of your water, and I think didn't you state, Mr. Untermeyer, that you're getting most of your water from wells?

Mr. UNTERMEYER. Wells and check dams, sir.

Senator NICKLES. Check dams?

Mr. UNTERMEYER. Yes. Which I understand are small dams for runoff collection.

Senator NICKLES. Is the water table falling on those wells or are you up to capacity?

Mr. UNTERMEYER. I'm told, sir, that the table is holding as presently used. But of course, as I mentioned, as time goes on and there may be greater needs for Camp Pendleton, then those amounts are uncertain and risky.

Senator NICKLES. So you feel that as far as Camp Pendleton is concerned, you're probably OK if your demand did not increase above present, level? Would that be accurate?

Mr. UNTERMEYER. As far as we know from hydrological knowledge presently available. As time goes on, as you know, the demands on southern California water in general are enormous. If

those tables were to drop, if rainfall diminished and couldn't rely on runoff sources, then conceivably the Marine Corps would have to exercise its claim on southern California water which as I understand is never used. And that, of course, would throw us right into tremendous battles with the other users in southern California.

We wish to avoid that and have good relations with our neighbors as well as to serve our own needs.

Senator NICKLES. So in the past, although you have a contract with the San Diego County Water Authority to supplement your water supply if needed, you haven't had to call upon the water authority. Mr. Burzell, you were discussing the fact that you're going to have reduced water available from the Colorado River. When? Effective in 1986?

Mr. BURZELL. Starting in 1985. And from then on we expect to be cut back to less-than-half of what we are entitled to now.

Senator NICKLES. How much water—how much reduction are you talking about?

Mr. BURZELL. The rights now that the Metropolitan Water District has that we share in is 1,212,000 acre-feet. That's going to be cut back to 550,000 acre-feet, less some yet undetermined Indian claims, that will cut that supply back to about 450,000 acre-feet.

Senator NICKLES. The Santa Margarita project wouldn't be completed for about 7 years. You're talking about having a sizeable reduction in 2 years. How do you foresee making up this gap? Do you have available reserves?

Mr. BURZELL. Fortunately, we've had two wet winters successfully. Now we're starting this dry period, it looks like, with all of our reservoirs full. We have over 500,000 acre-feet in storage in San Diego County and all of Metropolitan's reservoirs are full. The shortages that we predict are just during the dry years. The State water project can meet demands in normal years. But it's 1 out of 3 years you're short. And what we're looking at in this decade is shortages of 10 to 15 percent. Those are manageable. You can get by by changing your lifestyle a little bit.

After 1990, the shortages will run up to as much as 35 to 40 percent it looks like. That's a complete change in the way people live that we'd lose lawns and gardens and that sort of thing, plus our agriculture. So what we're trying to do is get everything we can on line by 1990. So a project like this, even with a 7-year lead time is well within the time frame that we're most concerned about.

Senator NICKLES. You mentioned not only the cutbacks from the Colorado River but also cutbacks on some other source. What was that?

Mr. BURZELL. The other source that we are relying on is the State water project. It's a project operated, constructed and operated and maintained by the State of California parallel to the Central Valley project which the Federal Government has constructed. That project has contracts out for 4.2 million acre-feet. The present facilities in a dry year can produce only about 2 million acre-feet. And that leave 1 million acre-feet for southern California's Metropolitan Water District of which—where we share.

So a supply that is now considered to be 1.2 million from the Colorado and at least 1 million available from the State project as our share, or some 2 million will be cut back to just the million

from the State and about 450,000 acre-feet from the Colorado. So you can see that there is a substantial cutback of something on the order of 30 percent or 40 percent.

That's where the concern lies.

Senator NICKLES. Mr. McGuire, you talk about economics a little bit and the cost of water. And I think I heard you say that by 1990 you're projecting the cost of water might be what? $310 per acre?

Mr. MCGUIRE. We're talking in the neighborhood of—it's economics again. We're talking anywhere from probably $275 up to about three-and-a-quarter, $310, $310.

Senator NICKLES. What are you paying now?

Mr. MCGUIRE. Just $200. Just a fraction over $200. $205, isn't it?

Mr. TINKER. The current wholesale price that we pay the county water authority is $155.50. It's going to $189 on the First of July this year. And the projections are that that is going to go up to $310 by 1990.

Senator NICKLES. If it didn't go up to $310 then you might have water that would—would the water be feasible?

Mr. MCGUIRE. We have to have it to buy it. We may not have the water to buy it. That's the entire situation. And let me call your attention to something also. We've had some wet winters out in California. And I believe that's one reason why Camp Pendleton has a good ground surplus of water at the moment. But if we go through the years like we did 1975, 1976, 1977, where we only had 5 or 6 inches of rain compared to what we're having now, 25 and 30 inches, well we're going to be back in the same bind. Believe me.

So you have to look for the future also. Plus, not only have our water cut from the Colorado but also dry years coming up.

Senator NICKLES. What percentage of the costs would be picked up say by the Fallbrook group?

Mr. UNTERMEYER. Mr. Chairman, if I may answer that. As Commissioner Broadbent mentioned, the figure we're working on now is a 52.5-percent Department of the Navy split and reciprocal 41—excuse me, 47.5 to Fallbrook.

Senator NICKLES. So that would be the two allocations or the split between the two? And that would be for what? Operation, maintenance, and——

Mr. UNTERMEYER. For construction.

Senator NICKLES. And for the construction?

Mr. TINKER. The Fallbrook share is roughly $50 million out of the $200, construction costs.

Senator NICKLES. 50 million. And what would the Navy's share be then?

Mr. UNTERMEYER. We're still working on this, as Commissioner Broadbent mentioned. But the figure I heard at the last discussion was $105 million, which is 52.5 percent of $200 million.

Senator NICKLES. Well, I computed that and then I also heard the 50. But if you add the two together you come up with 155 and not 200.

Mr. TINKER. There are some nonreimbursable costs picked up by the Department of the Interior.

Senator NICKLES. Which would be the flood control, recreation?

Mr. TINKER. Some of the flood control. Some of the recreation. Some of the fish and wildlife that under reclamation law are nonreimbursable.

Senator NICKLES. Fallbrook purchased how much land?

Mr. MCGUIRE. 1,570 acres.

Senator NICKLES. And this would be the land that would be covered by the reservoir?

Mr. MCGUIRE. A valuation of a little over $650,000 at that time. This will be covered. The reservoir will cover the land. This land that we own in our district. And we'll put that in the kitty toward part of our downpayment.

Senator NICKLES. You said it had a value of or did Fallbrook pay 650——

Mr. MCGUIRE. That's what we paid for it. The value now, of course, is, well, approximately $8 million? Approximately $8 million is the valuation of land we bought.

Senator NICKLES. You don't want to cancel the project and sell the land?

Mr. MCGUIRE. Well, if we did I'd want to get out of town. We paid over $600,000 for it so——

Senator NICKLES. I would expect. One additional. How large is Camp Pendleton?

General HATCH. Very close to 200 square miles.

Senator NICKLES. 200 square miles?

General HATCH. Yes.

Senator NICKLES. Any additional comments that any of you care to make?

Mr. TINKER. I'd just like to add one more note that I overlooked in my testimony. And we have just contributed $50,000 to the Bureau of Reclamation to keep their studies on schedule. They did have a slight funding problem this year without an appropriation bill for the Department of Interior. And they asked us if we would be willing to contribute that and we have done so.

Senator NICKLES. It's usually the other way around. But gentlemen, thank you.

Mr. MCGUIRE. So you can see the people, the public really want this dam when they start using their own money to contribute.

Senator NICKLES. I understand the strong support that you and also the Senate and congressional delegation have given to this project.

Thank you very much, gentlemen, appreciate your interest.

The next panel that we have will be John VanDerwalker, executive director of Platte River Whooping Crane Habitat Maintenance Trust, from Grand Island, Nebr.; William McDonald, who is director of Colorado Water Conservation Board, Colorado Department of Natural Resources, from Denver; and also Theodore Brooks, who is attorney for the Tri-County Conservancy in Colorado.

Mr. VanDerwalker, would you care to proceed?

STATEMENT OF JOHN VanDERWALKER, EXECUTIVE DIRECTOR, PLATTE RIVER WHOOPING CRANE HABITAT MAINTENANCE TRUST, GRAND ISLAND, NEBR.

Mr. VANDERWALKER. Yes. I can see as standard operating procedure everybody is in a hurry so I'll try to be in a hurry today, too. I have the copies of my testimony here which I'll leave for the record.

I would like to try and make one point while I'm here. And that is that we have a potential conflict between the authorization of the Prairie Bend feasibility study which is in 622, and the continued maintenance of 80 miles of habitat on the Platte River that's been designated as critical habitat. We have then a potential conflict between the Endangered Species Act and this development.

And I want to emphasize the fact that it's a potential conflict and that the Platte River trust is not here to testify against the feasibility study but to raise this issue. The 80-mile stretch of the river we're concerned about supports the whooping crane as well as 250 bald eagles, which are both federally endangered species, and the least tern, which is a State threatened species. In addition to that, we have 500,000 sandhill cranes come to the river each year, the largest concentration of cranes in the world. We have 7 to 9 million ducks and geese come each year for spring staging. We have 188 species, migratory species that use the river. And 88 of them nest there.

The historic flows of the Platte River were about 2.5 million acre-feet before development began. One and a half of that is not consumptively used by irrigation users and to a smaller extent by industrial and domestic users, which leaves 1 million acre-feet. This reduction in flow has been primarily reducing flood flows and the scouring that has occurred in the past in the river and has completely changed the ecology of the river. But it is salvageable and we can, through management, maintain this habitat.

Recently, the Nebraska Game and Parks issued a biological opinion on a proposed water diversion from the Platte and quantified the amount of water that's required to maintain that habitat. And if you add all that up it comes out to 750,000 acre-feet.

So we know that somewhere around that figure is what's required to maintain the habitat.

The Prairie Bend people have applied for a water right to divert 375,000 acre-feet. And I have a chart here which I'll leave that spells these various figures out. But if you subtract 375,000 from 1 million you don't come up with 750, you come up with something significantly less. So simple arithmetic indicates that we have a potential conflict.

However, early Bureau reports had shown that the Prairie Bend area does not need this quantity of water in order to maintain existing irrigated acres which is their goal. It's the trust's belief that we should, at the front end, when we start this feasibility study make the maintenance of wildlife habitat in the Platte River a project purpose. And by that, we would develop—by doing that we would develop alternatives that would prevent a future conflict and court cases and the waster of an awful lot of people's time. Because the trust believes it is possible to develop a project that will

manage the Platte River flows to maintain this habitat and meet the purposes of the Endangered Species Act and the Migratory Bird Treaty Act and a variety of other Federal legislation related to the environment, and meet the private interest of the irrigated developers there.

So what we hope you will do is, if you pass this bill, this feasibility study, that you will either amend it or place some kind of terms in the report that mandate that the Bureau of Reclamation will presume that maintaining this wildlife habitat is a project purpose and that any alternatives they develop will do that. It seems useless to me to develop any other kind of alternative, because if they build an alternative that jeopardizes the habitat, obviously, I mean, if they design one they obviously can't build it unless we repeal the Endangered Species Act. And that doesn't seem likely.

We have specific language that we've included in our testimony. And I'd like to just read the one sentence that we think ought to at least go in the report:

> In conducting this study, the Fish and Wildlife Service shall determine, in cooperation with the U.S. Geological Survey, the flow required—the flow regime required to maintain the migratory bird habitat in the Big Bend reach of the River, and the Bureau of Reclamation shall design project plans that will provide those flows. Provision of instream flows for migratory bird habitat restoration and maintenance will be one of the purposes of the Prairie Bend feasibility study.

Thank you.

[The prepared statement of Mr. VanDerwalker follows:]

Testimony Presented to the Sub-committee on
Water & Power Resources. May 2, 1983

The Prairie Bond feasibility study authorization

My name is John VanDerwalker. I am the Executive Director of The Platte River Whooping Crane Critical Habitat Maintenance Trust, (Platte River Trust) located in Grand Island, Nebraska. I appear before you today on behalf of The Platte River Trust to respectfully request you amend ~~H.R. 1669~~ to assure the development of water management alternatives that are consistent with the purposes of the Endangered Species Act and the Migratory Bird Treaty Acts.

The Platte River Trust was formed in 1978 as the result of a federal court-approved settlement of litigation between the State of Nebraska, Basin Electric Power Cooperative and The National Wildlife Federation. The Trust is administered by three trustees, one each designated by The State of Nebraska, The Basin Electric Power Cooperative and The National Wildlife Federation. The Platte River Trust is charged with using the resources of the Trust for the preservation of Whooping Crane, Sandhill Crane and other migratory bird habitat in the Big Bend reach of the Platte River. This reach of river extends from near Lexington, Nebraska to near Chapman, Nebraska, a distance of approximately 80 miles.

A portion of the Big Bend of the Platte River has been determined to be Critical Habitat for the Whooping Crane. This determination was made by the U. S. Fish and Wildlife Service on May 15, 1978. This area also provides important habitat for approximately 250 Bald Eagles which are also an endangered species. The Least Tern, which is on the Nebraska list of threatened species, nests in the Big Bend of the Platte River. Besides providing habitat for these endangered and threatened species, the Platte is used by 500,000 Sandhill Cranes, 7-9 million ducks and geese, and over 180 other migratory species.

In the last one hundred years, the Big Bend migratory bird habitat has been severely degraded by upstream water impoundment and diversion for irrigation purposes. The historic flow through the Big Bend reach of the Platte was approximately 2.5 million acre feet annually. About 1.5 million acre feet of the annual flow is now consumptively used by irrigators located upstream of the critical habitat area. This diversion of 60% of the Platte's water has radically changed the flow regime of the Platte River. For instance, at Overton, Nebraska, average peak flows have been reduced by 74% from an average of approximately 19,000 cubic feet per second (cfs) to about 5,000 cfs. Channel width at Overton has declined from about a mile to 1,200 feet, a 77% loss in width.

This change in flow regime has, in turn, completely altered the ecology of the river and its value to migratory birds. In the past, the Platte River floodplain was an unvegetated sandbed river flowing through a floodplain of wet meadows, marshes and grasslands. Trees were rare because of the high spring flood flows which scoured the riverbed, and prairie fires and periodic droughts which prevented trees from growing on the adjacent lands. Much of the Platte riverbed is now a cottonwood forest.

Vegetation encroachment on the riverbed begins with the growth of

annual weeds on the sandbars which are exposed when the summer flows are diverted for irrigation. During the fall, winter and spring, when irrigation withdrawals are not being made, these sandbars are again submerged and trap sediment moving down the river, thus building the elevation of the island. This process is repeated each year until the sandbar is transformed into an island that becomes vegetated with willow bushes and then cottonwood trees. Once stabilized by willows and trees, these islands are not eroded away even by the rare floods which occasionally occur.

In the reach of the river from the confluence of the North and South Platte Rivers downstream to Lexington, vegetation encroachment has proceeded to the point where the entire riverbed is a cottonwood forest laced with small braided channels just a few yards wide. Even though there is still approximately 400,000 acre feet flowing through this reach of the river each year, it is of no practical value to cranes or spring migrating ducks and geese.

Near Lexington a large canal returns approximately 500,000 acre feet of water to the Platte. These waters are what remain of the one million acre feet diverted from the Platte near the confluence of the North and South Platte. This diversion is about 65 miles upstream and flows through a series of canals and reservoirs used for irrigation and power production purposes.

This return flow, when added to the 400,000 acre feet remaining in the river, has been enough to maintain some migratory bird habitat in the Big Bend reach of the river. Although vegetation encroachment is occuring in this reach, there are still many areas where there are open channels several hundred feet wide. The utility of these areas is illustrated by the numbers of birds that use the river. While there are practically no sandhill cranes using the 40 miles of river above Lexington, it is common to find 20,000 sandhills per mile of river in the open channels below Lexington, particularly on the roost sites near the towns of Gibbon, Wood River, Alda and Doniphan. Last year, at one site near Alda, approximately 30,000 Canada geese were observed roosting in less than two miles of river channel.

No one can doubt the importance of the Big Bend reach of the Platte River to Whooping Cranes, Sandhill Cranes, Bald Eagles, Least Terns and literally millions of other migratory birds. No one can deny that water must flow in the Platte if it is to provide the habitat necessary for the continued survival of the migratory birds that use it.

In the past, there have been legitimate questions about how much flow is required to maintain this habitat. However, information has been generated in recent years that tells us how much flowing water is required. To do this, two questions had to be answered. First, what are the physical conditions such as water depth, velocity and channel width, required by the birds? Second, how much water is needed and when must it flow to maintain these conditions?

The first question was the subject of a three-year research program by the United States Fish and Wildlife Service. The results of this research are reported in the Platte River Ecology Study. To fully explain the roosting behavior of cranes and thus understand their habitat require-

ments would take too much of your time. To summarize, the Whooping Cranes require, at least a 500-foot wide, unvegetated channel full of water. The depth of water over the roosting sandbars should be a foot or less. The 500-foot wide channel by no means provides optimum or even desirable habitat; it provides minimally adequate habitat. In addition to this direct need for water, instream flows must also be maintained to insure the high water table needed for the adjacent wet meadows and for scouring the roosting channel.

The United States Geological Survey conducted a series of research programs to address the second question, "how much water is needed to maintain the conditions described in the Platte River Ecology Study?" Other work has also been done by The Platte River Trust to quantify the instream flows needed for migratory birds. The Nebraska Game and Parks Commission has used this and other information to determine the flows needed to maintain the habitat for Whooping Cranes, Bald Eagles and Least Terns. They have concluded that:

> "Specific quantities and distribution of flows are needed to maintain essential habitat on the Platte River for three endangered and threatened species: 1) a flow of 1,700 cfs in the river between Overton and Grand Island is needed to provide suitable roosting, feeding and loafing habitat for the Whooping Crane during the spring and fall migration; 2) In order to initiate biological response in wet meadow vegetation and invertebrate populations before Whooping Cranes arrive in the spring, flows of 1,100 cfs beginning March 1 should be provided through the Overton to Grand Island reach; 3) a flow regime of 3,800 cfs for 23 days per year is currently being recommended as scouring flows which are required to maintain a 500-foot-wide channel free of woody vegetation in the Overton to Grand Island reach; 4) a flow of 1,100 cfs must be present at Overton from December 10 to February 25 to provide essential habitat for wintering Bald Eagles; 5) a flow of 400 cfs must be maintained through the Kearney to Duncan reach of the Platte River throughout the year to provide habitat for the survival and annual production of fish suitable as food for the Least Tern. A flow regime that would maintain a channel width that is free of woody vegetation and suitable to Whooping Cranes would provide the scouring needed to maintain a sandbar substrate suitable for Least Tern nesting."

The biological opinion further stated:

> "Jeopardy to the continued existence of the Whooping Crane, Bald Eagle and the Least Tern can be avoided if the habitat flow requirements as described above are satisfied. Although the annual average flows in the Platte River at Overton appear to be sufficient for meeting the demands of the Prairie Bend and Little Blue Projects, not enough water would be available to meet all

of the habitat flow requirements with both of them in operation."

The clearly-stated conclusion is that if the Prairie Bend Project, which has applied for the right to divert 210,000 acre feet of water annually, and the Little Blue Project, which has applied for the right to divert 125,000 acre feet of water annually, are constructed, it would jeopardize the continued existence of the Whooping Crane, Bald Eagle and Least Tern.

The U. S. Fish and Wildlife Service has issued similar jeopardy opinions on three other upstream water diversions that are far smaller amounts than the 210,000 to 365,000 acre feet of annual diversion proposed by Prairie Bend sponsors.

These jeopardy opinions included the Riverside Irrigation proposal to divert 11,000 acre feet annually from the South Platte in Colorado, the Missouri Basin Power Project's 23,000 acre feet annual diversion from the North Platte and the Bureau of Reclamation's proposed annual depletion at Overton of 91,800 acre feet. These opinions were issued on April 12, 1982, December 8, 1978 and January 20, 1983 respectively.

The bill we are discussing today, H. R. 1669, would authorize a feasibility study for the Prairie Bend Unit. It directs the Secretary of the Interior to develop plans for water diversion and storage facilities to serve the irrigation needs of landowners in Dawson, Buffalo and Hall Counties, Nebraska.

The bill fails to recognize the serious conflict that exists between further diversions for irrigation and maintenance of critical migratory bird habitat on the Platte. The only language in this bill that is related to the Platte River critical habitat is "Such feasibility study shall include a detailed report on any effects the proposed project may have on wildlife including the habitat of the sandhill crane and endangered whooping crane." The feasibility study should have a more positive approach toward the preservation of migratory bird habitat. The study should determine what further development is possible consistent with the Endangered Species Act and the Migratory Bird Treaty Acts. This kind of information is what is needed to determine the federal government's role in the management and development of Platte River water.

It is time for us to recognize the possible conflicts between western water development and the nation's environmental policy as stated by N.E.P.A. It is time for the Congress to contribute to a long-term solution of the continuing encroachment on the remaining migratory bird habitat of the Platte River. This can be done by funding studies that are clearly consistent with previous Congressional actions to protect our environment and wildlife. Perhaps if all the parties interested in how Platte flows are managed could be brought together in a feasibility study where each of their interests would be fairly examined, alternative solutions to the existing conflict could be found.

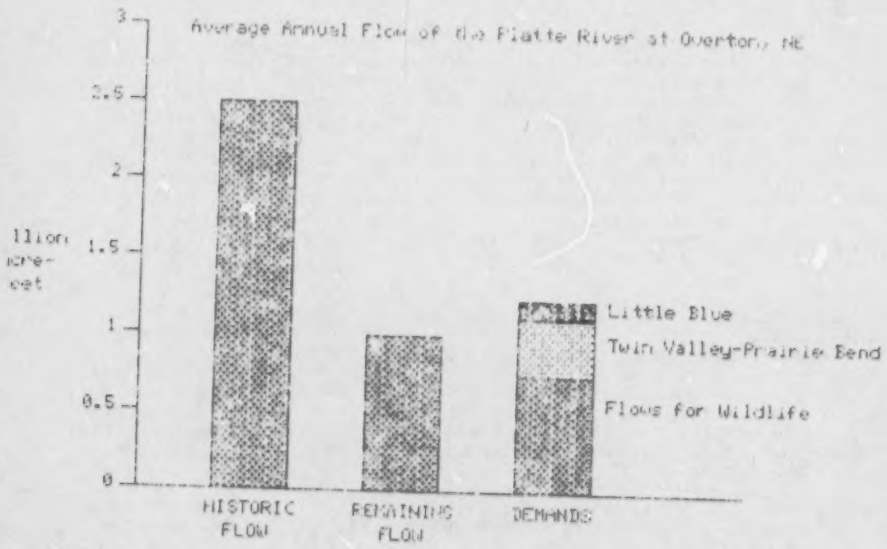
The Trust believes this proposed feasibility study should recognize the value of migratory bird habitat of the Platte River. It should respect

and carry out the conservation and environmental laws of the land and set in motion a process that will lead to a resolution of conflicts.

We should make maximum use of federal and state resources and hasten those actions that must be taken to insure the continued existence of critical migratory bird habitat on the Platte River of Nebraska.

We respectfully request you amend H.R.1669 to require an examination of alternatives that would meet the needs of Platte River migratory bird habitat and to seek an accommodation between these needs and the other beneficial uses of water. We propose that the following language be included in the bill: Such feasibility study shall develop water management plans that are consistent with the purposes of the Endangered Species Act and the Migratory Bird Treaty Act

We suggest that the committee back up this amendment to the bill by including the following language in its report on the bill. "In conducting this study, the U.S.Fish and Wildlife Service shall determine, in cooperation with the USGS, the flow regime required to maintain the migratory bird habitat in the Big Bend reach of the Platte River, and the Bureau of Reclamation shall design project plans that will provide those flows. Provision of instream flows for migratory bird habitat restoration and maintenance will be one of the purposes of the Prairie Bend feasibility study."



Senator NICKLES. Thank you very much, Mr. VanDerwalker, for your comments. And we will take your suggestion into consideration. Thank you very much.

Mr. McDonald.

STATEMENT OF J. WILLIAM McDONALD, DIRECTOR, COLORADO WATER CONSERVATION BOARD, COLORADO DEPARTMENT OF NATURAL RESOURCES, DENVER, COLO.

Mr. MCDONALD. Yes, sir. My name is Bill McDonald. I am director of the Colorado Water Conservation Board. I am here to present a statement on S. 662 concerning the Dallas Creek project. Before I start that, if I might take about 30 seconds to comment on one aspect of S. 622, the feasibility studies, simply to note that the State of Colorado would concur with Commissioner Broadbent's recommendation that the saline water use and disposable opportunity unit be amended into that act. That is a program which Colorado supports. I think I could fairly say that all seven States in the Colorado River Basin support that. We would encourage your consideration of the Commissioner's recommendation.

With respect to S. 662, the Dallas Creek project, it's my pleasure to speak on behalf of the Governor of Colorado, Richard D. Lamm. There is a statement for the record which I provided to staff, and with your concurrence I'll simply let that stand.

To summarize that statement, I would make two main points. No. 1, planning for the Dallas Creek project was completed in 1976 and a contract was executed in January of 1977. That was a contract negotiated in good faith. All of the negotiation sessions were, of course, public negotiating sessions. It is a contract which has an absolute ceiling; there is no renegotiating clause. And it is, in the opinion of the State, a binding contract entered into in good faith.

Second, I would point out that the cost increases allocable to municipal and industrial water supply which have been incurred, are not the fault of the local sponsoring entities activities, the sponsoring entity being Tri-County Water Conservancy District. All of the cost increases in the form of dam redesign, safety instrumentation, what have you, are decisions made by the Bureau of Reclamation. All of the associated delays are decisions made by the Bureau, not the result of any inaction or delay on the part of the district. So all of the resulting inflation is a consequence of Federal action.

In particular, we would note that of the costs allocable to M&I, to the extent that they are now in excess of the repayment ceiling in the contract, about 60 percent of those increases are the result of changes in construction costs caused by design changes, state-of-the-art consideration, dam safety considerations, and added instrumentation, all of which were unexpected by both the district and the Bureau at the time the contract was negotiated.

Senator NICKLES. Is that part of your statement?

Mr. MCDONALD. That is part of my statement. The other 40 percent would be inflation. And that is about what the Bureau and the district anticipated when they negotiated the contract. So we were certainly on target with respect to inflation. The cost results are things entirely beyond the control of the local district.

One last point. A comment was made by [illegible]mmissioner in response to a question from you, Senator, a[illegible] the Dolores project, another project in Colorado. Let me assure [illegible]u, sir, that the Dallas Creek repayment contract is unique and it [illegible]t bear on nor, in my opinion, set a precedent for the Dolores [illegible]ect.

The issue concerning the Dolores project is being resolved by the local district with the assistance of State legislation. That State legislation has passed our house and is now out of senate committee. It is probably on the floor of the senate today, as a matter of fact. And with the passage of that legislation the issue at the Dolores project will be entirely resolved. There is no intention on the part of the State of Colorado whatsoever that we approach Congress with respect to the Dolores project.

Senator NICKLES. I appreciate your clarification.

Mr. MCDONALD. It's important the record reflect that.

Finally, I would ask, sir, that the record might be left open for a few days in order that Colorado can respond to Dr. Blackwelder's points. I believe some of his comments to be factually in error. Others I simply disagree with as a matter of policy. And I would appreciate the opportunity to respond precisely to his comments if we might, in writing, subsequently.

Senator NICKLES. We would appreciate your comments. And the record will be kept open for at least 2 weeks following this hearing for additional comments.

Mr. MCDONALD. Senator, thank you. We support the passage of the bill.

[The prepared statement of Mr. McDonald and a subsequent letter from Governor Lamm follows:]

STATEMENT OF J. WILLIAM MCDONALD, DIRECTOR
COLORADO WATER CONSERVATION BOARD

BEFORE THE

WATER AND POWER SUBCOMMITTEE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ON S. 662

Washington, D.C.
May 2, 1983

Introduction

I am J. William McDonald, Director and Secretary of the Colorado Water Conservation Board. I am testifying on behalf of the Honorable Richard D. Lamm, Governor of Colorado; Mr. Hamlet J. Barry III, Acting Executive Director of the Colorado Department of Natural Resources; and the Board itself, which is the state agency charged with the protection, conservation, and management of the water resources of the State of Colorado.

Summary

The State of Colorado supports S. 662, a bill providing for confirmation of the provisions of the repayment contract for the Dallas Creek participating project of the Colorado River Storage Project. We respectfully urge this subcommittee to act expeditiously and favorably on this bill.

Testimony

The Dallas Creek project was authorized as a participating project of the Colorado River Storage Project by the Colorado River Basin Project Act of 1968 (P.L. 90-537). The definite plan report for the project was completed in November, 1976. Likewise, the repayment contract for the project was approved in late 1976 at an election of the residents of the Tri-County Water Conservancy District (Tri-County), the local governmental entity which will handle the marketing of the project's water. The repayment contract between the United States and Tri-County was executed in January, 1977.

Due to dam safety design considerations prompted by the Teton Dam failure, the Bureau of Reclamation (Bureau) decided to proceed with construction in two phases. As a consequence, even though the repayment contract was executed in January, 1977, it was mid-1979 before final designs and specifications for the

first stage of construction were completed. In turn, the invitation for bids on the first stage was not issued until August, 1979. Further delay was encountered when the Bureau obtained an extention of time for the awarding of the contract from the bidders. As a consequence, a construction contract was not awarded to the successful bidder until December, 1979, nearly three years after the repayment contract was negotiated and executed.

Once initiated, construction on the first stage proceeded on schedule. However, the Bureau has lost the better part of another year in initiating construction on stage two due to delays incurred in 1981 in the preparation of final designs and specifications for the balance of the project.

During all of these delays, none of which were caused by the Tri-County Water Conservancy District, design changes and inflation have increased the cost of construction beyond that which could have been reasonably foreseen at the time the repayment contract was approved in late 1976. To make matters worse, the contractor on stage one has submitted claims totalling nearly $17 million against a contract which in the first place was for only $15 million. While negotiations between the Bureau and the contractor will undoubtedly lead to a substantial reduction in the $17 million of claims, one cannot help but observe that Tri-County is a victim of problems created by others which are entirely beyond its control.

The repayment contract executed by Tri-County provides, in Article 6. c., that:

> The Contractor hereby agrees to pay all project costs allocated to M&I use, including interest during construction, but not more than $38 million. Said obligation limit is the current estimated project cost allocated to M&I use, based on January 1, 1976, price levels and fiscal year 1976 interest rates increased to cover possible changes in the cost of construction, increases in the applicable rate of interest, changes in project works, or changes in the allocation of project water. The estimated cost based on January 1976 price levels and fiscal year 1976 interest rates is $27,966,000. The allocated M&I repayment obligation is based on furnishing 28,100 acre-feet annually of project M&I water and is to be paid with revenues received from project M&I water users and in accordance with sub-article d. hereof. . . .

As can be seen, the repayment contract does not obligate Tri-County to renegotiate, or make any other adjustments in, its contractual obligation should the costs allocable to M&I water supply exceed $38 million. To the contrary, the $38 million figure is an absolute ceiling.

The $38 million ceiling was arrived at by adding 35 percent to the original cost estimate of $27,966,000 in order to cover the anticipated impacts of inflation over the course of construction as originally scheduled in the definite plan report. However, as noted above, the start of construction was delayed by nearly three years by the Bureau of Reclamation, large claims have been lodged by the contractor on stage one, and now the Bureau has lost yet another year in initiating construction on stage two.

As a result of these delays, the Bureau now estimates that the costs allocable to M&I water supply will be approximately $76 million. About 60 percent of the increase from the orginally estimated $28 million to the now estimated $76 million has resulted from changes in construction costs caused by design changes, state of the art considerations, dam safety considerations, and added instrumentation, all of which were unanticipated at the time the repayment contract was negotiated.

The remaining 40 percent of the cost increase is attributable to inflation resulting from delays in construction. Absent this delay, inflation would not have accounted for 40 percent of the increase in allocable costs. Rather, increased costs due to inflation would have been well within the 35 percent increase originally provided for.

In short, it is actions of the federal government, not Tri-County, which have caused the costs of construction allocable to M&I water supply to exceed Tri-County's contractual obligation. This fact, coupled with the absence of a renegotiation clause in the repayment contact, present a compelling case in Tri-County's favor.

This bill gives recognition to the legal and moral obligation which the United States has to the Tri-County Water Conservancy District. Thus, the bill confirms that the portion of the costs of the project allocable to M&I water supply which exceed the $38 million fixed repayment ceiling in the repayment contract shall not be reimbursable. The binding obligations of a contractual committment, let alone equity and fairness, demand that Tri-County's repayment obligation be limited to $38 million.

gl

STATE OF COLORADO

OFFICE OF THE GOVERNOR
STATE CAPITOL
DENVER, COLORADO 80203

RICHARD D. LAMM
Governor

State of Colorado
EXECUTIVE CHAMBERS
DENVER

May 12, 1983

The Honorable Don Nickles, Chairman
Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Senator Nickles:

On May 2, 1983, your subcommittee held hearings on S. 662, a bill to provide for confirmation of the repayment contract of the Dallas Creek participating project of the Colorado River Storage Project. At that hearing, a statement was presented on my behalf by Mr. J. William McDonald, Director of the Colorado Water Conservation Board. I am submitting this supplemental letter with the request that it be made a part of the offical record of the hearing.

Mr. McDonald informs me that one of the questions which you asked of him at the hearing was whether the passage of S. 662 would set a precedent for a similar problem at the Dolores participating project in southwestern Colorado. As Mr. McDonald indicated, the State of Colorado does not consider S. 662 to establish a precedent for the Dolores project. The cost allocation and repayment contract problem on the Dolores project has been resolved with the passage of state legislation which provides for two features of the Dolores project to be financed with state funds. I therefore wish to assure you that the State of Colorado does not foresee that it will be necessary to seek legislation on the Dolores Project as it is now doing on the Dallas Creek project.

I would also like to comment on the May 2, 1983, testimony submitted by the Environmental Policy Center. Several points raised by the Center are, in my opinion, in error. These have been discussed in the supplemental testimony submitted by the Tri-County Water Conservancy District (dated May 12, 1983), in which testimony I concur.

With respect to the Center's comments on salinity, it is true that the Dallas Creek project is projected to result in a small increase in the salinity of the Colorado River at Imperial Dam. The balance of the Center's testimony on this topic fails to recognize, however, that the federal government and seven states of the Colorado River basin are engaged in a cooperative, basinwide program to simultaneously reduce salt loading to the river. The objective of this program is to maintain salinity at the levels occurring in 1972 in the lower mainstem while the states continue the development of their compact apportioned waters. This basinwide approach to salinity has been approved by the Environmental Protection Agency and found valid in litigation. Thus, the Center's objection to the Dallas Creek project based upon the projected salinity impacts is without merit, both as a matter of law and policy.

The Center alleges that the water to be developed by the Dallas Creek project for the benefit of Colorado could be put to "a higher value and more beneficial use downstream." This allegation seems to turn on the presumption that the worth of a reliable water supply can be fully measured in dollars and cents. This is, of course, not the case. Significant public health and safety objectives, not readily measurable in terms of dollars, will be fulfilled by the Dallas Creek project. Furthermore, the Center's allegations ignore the interstate compacts which apportion to Colorado in perpetuity the right to beneficially use certain amounts of water as it sees fit.

In summary, I urge your favorable and expeditious action on S. 662. Thank you.

Sincerely,

Richard D. Lamm
Governor

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cc: Senator Armstrong
Senator Hart

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Senator NICKLES. Thank you very much.
Mr. Brooks.

STATEMENT OF THEODORE L. BROOKS, ATTORNEY, TRI-COUNTY WATER CONSERVANCY DISTRICT, MONTROSE, COLO.

Mr. BROOKS. Thank you, Senator, for the opportunity of appearing before the subcommittee. I appeared before the subcommittee the last Senate and gave extensive testimony which is in the record. And I have submitted similar written testimony for this subcommittee.

I would like only, and very briefly, update the status of the project and emphasize one or two points in behalf of this legislation.

Senator NICKLES. Very well.

Mr. BROOKS. Since the last Congress the Bureau of Reclamation has let the contract for the second phase of the Dallas Creek project. This is a two-phase project, the first phase being completed last year. The contract was let in September for the second phase. That is now under construction.

It was interesting to note from Commissioner Broadbent's testimony that the Bureau's present estimate for the allocable costs to M&I water is $73 million. Last year it was $76 million. Perhaps a portion of this reduction is due to the contract that was let for the second phase. The Bureau's estimate, engineer's estimate was $58 million for the second phase, whereas, the low bidder and the bid which was accepted was $45 million, substantially below the engineer's estimate.

I would like to make a very short comment similar to Mr. McDonald's distinguishing the Dallas contract from the Dolores contract and the Bonneville contract.

The Dolores project contract in article 6(c) specifically provides that at any time the Secretary of the Interior determines that the M&I obligation cost exceeds the specific, the specified contract amount, continued construction shall be contingent on the execution of a contract amendment to cover the increased cost.

In the Bonneville contract there are 18 major and 3 minor separate features. The Dallas project has one feature: the Ridgway Reservoir. The Bonneville contract provides that the Secretary of the Interior may at any time terminate construction of 14 of the major features and any of the minor features at the sole discretion of the Secretary.

Therefore, if the costs exceed the estimated cost they may delete certain portions of the contract, major features.

I might also point out, as I believe Commissioner Broadbent did in his testimony today, and certainly did in his testimony last July, that the Central Utah District is negotiating with the Bureau of Reclamation, renegotiating their contract. The Central Utah is not taking the position that they have a contract which may be interpreted in any way other than that it is subject to renegotiation to cover increased cost.

In conclusion, I wish to reemphasize that this contract was negotiated with the Bureau of Reclamation over a period of 3 years. Those involved in the negotiations were the local district reclama-

tion office, the regional office in Salt Lake City, and the Washington office. This provision as to renegotiation of the contract of cost overruns was specifically discussed and rediscussed at public meetings and at conferences. And it was the agreement of the parties that there be a cost ceiling. And this cost ceiling was set by the Bureau. We asked the Bureau to please give us the figure. And they gave us $38 million.

We took that figure, we submitted it to the voters of the district and it was accepted. It is a fair contract. It was a fair contract at the time it was negotiated and signed. The district did not desire to give a blank check to the Bureau of Reclamation or anyone else. And I don't believe that any of us in the private sector would be willing to enter into a contract with a contractor and say, certainly, whatever you decide to charge us we'll pay. Just go ahead with the project, we could care less what the cost might be.

There was a 35-percent cushion put in this contract for cost overruns, for change in design, for inflation, and so forth, which was a fair figure. The district is doing no more than asking that a fair and equitable contract that was entered into openly, publicly, with the U.S. Government now be confirmed and that the Government live up to its obligation.

If the committee has any questions, I will be glad to attempt to answer them.

[The prepared statement and subsequent submittal from Mr. Brooks follows:]

TESTIMONY OF THEODORE L. BROOKS
ATTORNEY FOR TRI-COUNTY WATER CONSERVANCY DISTRICT
BEFORE THE WATER AND POWER SUBCOMMITTEE
OF THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
ON S. 662 PERTAINING TO THE DALLAS CREEK PROJECT

May 2, 1983

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to appear before the Subcommittee and testify on behalf of S. 662.

This Bill which is identical to the Bill reported out of the Senate Energy and Natural Resources Committee last year, would reaffirm the terms of the 1977 Repayment Contract between the Tri-County Water Conservancy District of Colorado and the Secretary of the Interior for the purchase of 28,100 acre feet of municipal and industrial water annually for the domestic use of the residents of various cities, towns, and districts in Western Colorado.

Tri-County Water Conservancy District is a governmental entity, an agency of the State of Colorado and encompasses approximately 1360 square miles within the Colorado Counties of Ouray,

Montrose and Delta. The District was organized in 1957 for two primary purposes; to construct and operate a rural domestic water system which now serves approximately 10,000 rural residents, and as the sponsoring agency of the Dallas Creek participating project of the Upper Colorado River Storage Project.

This project had been under consideration by residents of the area and the Bureau of Reclamation for many years and on September 30, 1968 the project was authorized by the Colorado River Basin Project Act. In November, 1976, the Definite Plan Report was completed and also the final negotiation of the Repayment Contract. In December, 1976, the Repayment Contract was approved by the electorate of the District and on January 14, 1977, the Contract was signed by the Department of Interior and the District.

In September, 1977, the Commissioner of Reclamation authorized the start of construction. The Bureau, after completion of the Definite Plan Report and execution of the Repayment Contract, determined to construct the project in two phases, changing the final design and specifications so that they were not completed until mid-1979. Invitations for bids on the first phase were not issued until August, 1979, and the contract was not awarded to the successful bidder until December, 1979, a delay of almost three years after the signing of the Repayment Contract. As soon as the construction contract was awarded, the contractor commenced work on the first phase, completing it in the spring of 1982. The Contract for the second and final phase of the project was awarded in the

early fall of 1982 and construction is presently underway with a projected completion date in 1985.

At the time the Repayment Contract was signed, the estimated costs allocable to municipal and industrial water supply were $27,966,000, based on 1976 prices and the applicable interest rate. At the present time, the Bureau estimates that the costs allocable to municipal and industrial water supply will be $76,000,000. Approximately 60% of the increase from $28,000,000 to $76,000,000 has resulted from increases in construction costs due to design changes, state of the art consideration, dam safety considerations and added instrumentation, all of which changes were made by the Bureau after completion of the Definite Plan Report and the Repayment Contract was negotiated, approved and signed. The remaining 40% of the cost increase is attributable to inflation. However, a large part of this cost due to inflation results from Bureau administrative and design change delays.

According to the Bureau of Reclamation, the total cost of the project as designed and shown in the Definite Plan Report, as approved and contracted for by the Repayment Contract and projected to the same level as current costs would now be in the amount of $76,400,000 and the portion of that total cost allocable to m & i water would be approximately $38,000,000, the ceiling amount contained in the Repayment Contract.

The Repayment Contract sets forth the obligation of the United States to construct the project and performance by the United

States is conditioned only upon the appropriation of funds by Congress. All conditions precedent to construction were fullfilled by the District.

The obligation of the District for the payment of project costs for m & i water is set forth in Article 6.c. of the contract:

> The contractor hereby agrees to pay all project costs allocated to m & i use, including interest during construction, but not more than $38,000,000. Said obligation limit is the current estimated project cost allocated to m & i use, based on January 1, 1976 price levels and fiscal year 1976 interest rates increased to cover possible changes in the cost of construction, increases in the applicable rate of interest, changes in project works, or changes in the allocation of project water. The estimated cost based on January, 1976 price levels and fiscal year 1976 interest rate is $27,966,000. The allocated m & i repayment obligation is based on furnishing 28,100 acre-feet annually of project m & i water, and is to be paid with revenues received from project m & i water users and in accordance with Sub-Article 1 d. hereof.

There are no provisions in the contract providing for renegotiation or any other adjustments should the costs allocable to m & i water exceed $38,000,000. To the contrary, the $38,000,000 figure is an absolute ceiling.

The Repayment Contract was the subject of negotiations between the Bureau and the District from February, 1974 to November, 1976, a period of almost three years. The negotiations consisted of meetings between the Bureau and the District as well as many informal conferences between representatives of both agencies. All pro-

visions of the contract were considered in the negotiations and in particular the provisions for repayment of both the irrigation water costs and the m & i water repayment obligation. The District requested a limitation on the m & i payment obligation in order to avoid renegotiation at some future date for incurred costs beyond its control. The District realized that due to inflation, increases in the applicable interest rate and possible changes in project works, the allocable costs might very well exceed the Bureau's estimated costs of $28,000,000. A percentage increase was considered but deemed undesirable. The District requested the Bureau to determine a maximum or ceiling amount. The Bureau submitted the figure of $38,000,000, a 35% increase over the total m & i costs and interest estimated at that time. The District accepted the figure, it was incorporated in the Repayment Contract and the voters approved it.

In providing an absolute ceiling for reimbursable cost of m & i water, the Dallas Creek Contract is in marked contrast to other repayment contracts for projects authorized for or under construction.

The repayment contract for the Dolores Project in Article 6.c. provides that at any time the Secretary of the Interior determines that the m & i obligation cost exceeds the specified contract amount, continued construction shall be contingent upon the execution of a contract amendment to cover the increased cost.

The repayment contract for the Jensen Unit of the Central Utah Project in Article 5.a. provides that the m & i reimbursable cost shall include the total of the estimated cost plus interest, plus inflation, and plus an overall 25% increase for changes in the project works.

The repayment contract of the Upalco Unit of the Central Utah Project in Article 7 provides that if costs exceed the estimated amount, the project will either be modified or the repayment obliation increased.

While the Dallas Creek Project is a single feature project, the Bonneville Unit of the Central Utah Project is a multi works project including 18 major and 3 minor separate features or works. Article 4.e. provides that the Secretary of the Interior before the initiation of construction of 14 of the major features and any of the minor features has the right to require the District to enter into additional agreements prior to the construction of such works or features. Therefore, if costs exceed the contract amount, the government has the right to require a new agreement or contract amendment before proceeding with construction. Both parties to this Contract have accepted this interpretation by proceeding with negotiations on an amendment to the contract covering increases in costs.

The Administration and the Bureau of Reclamation has recognized the strong equities existing in behalf of Tri-County

Water Conservancy District and that this is indeed a unique set of of circumstances which cannot be considered as precedent for any other situation. Therefore, the Administration and the Bureau do not object to the enactment of this legislation.

It is the position of Tri-County Water Conservancy District that the United States is legally and morally obligated to comply with the terms and provisions of the Repayment Contract. S. 662 would neither add to nor detract from the provisions of the Contract and the intent of the parties. It will confirm the obligations under the Contract, preserve the specific legal content of the Contract and eliminate confusion.

Thank you again for the opportunity to testify before the Sub-Committee.

Theodore L. Brooks

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May 12, 1983

The Honorable Don Nickles
Chairman, Subcommittee on Water and Power
Committee on Energy and Natural Resources
360 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Nickles:

It was a privilege to testify before the Subcommittee on May 2, 1983, in support of S. 662, the Dallas Creek legislation, and this opportunity to provide further, written, response to the testimony given by Dr. Brent Blackwelder of the Environmental Policy Center is appreciated.

First, Dr. Blackwelder attempts to stigmatize the Dallas repayment contract by referring to it as a contract ratified by an "outgoing bureaucrat." The "outgoing bureaucrat" was a Secretary of the Interior under a former Republican administration. The succeeding Democrat administration, after extensive investigation, study and hearing, proceeded with the project, initiating and undertaking construction. The present Administration has continued construction with the support of both Houses of Congress.

Potability of Project Waters: The potability of the Ridgway Reservoir water, i.e. the issue of heavy metals, is not and never has been an issue. From the initial planning stages of the project an exchange of reservoir water for Gunnison River water for domestic use was contemplated. Three days after execution of the Dallas Project repayment contract, a contract was signed by the Tri-County Water Conservancy District and the Uncompahgre Valley Water Users Association (the local agency administering the Uncompahgre Reclamation Project), for the exchange of all of the municipal and industrial (m & i) water of the Dallas Creek Project (28,100 acre feet) for the same amount of Gunnison River water through the Gunnison Tunnel of the Uncompahgre Reclamation Project.

It is obvious that Dr. Blackwelder is unfamiliar with this exchange contract, as well as with water matters and terminology generally. The contract in clear language legally obligates the parties to such a water exchange. The "ceiling" of 1000 cfs that Dr. Blackwelder emphasizes as the amount of water available for exchange is actually the total capacity of the Gunnison Tunnel in flowing water measurement, cubic feet per second. Converted to volume measurement, 1000 cfs flowing for 24 hours equals 640,317,000 gallons or approximately 2000 acre feet; and flowing for one year equals 724,000 acre feet. Water flowing at this rate through the Gunnison Tunnel will fulfill the exchange contract amount for the Dallas m & i water (28,100 acre feet) in only fourteen days. If

1000 cfs constitutes a "ceiling" in the amount of water available for exchange as stated by Dr. Blackwelder, it is a unique ceiling being 25 times as much water as the total Dallas m & i annual allocation.

1981 GAO Report: Dr. Blackwelder criticizes the Dallas Creek Project, relying heavily on a 1981 GAO report, first charging that the economic justification of the Project is highly questionable, because the "failure on this project to do with-versus without-project analysis is a serious omission and masks the actual situation of no demonstrable increase in output because of the project." This assertion is in error. According to the Bureau of Reclamation, it did a "with" and "without" analysis of the Dallas Creek Payment capacity study. In this case, the Bureau's study was with and without irrigation from all sources, rather than just the Dallas Creek water; therefore, making the "without" value in this case zero and the study resulting in an average charge for water from all sources. This method was used because the increment of project water per acre on the Uncompahgre portion of the project was so small, it could not be accurately measured. Furthermore, this method of analysis is commonly used when small increments of supplemental water are developed for an existing agricultural area.

Dr. Blackwelder's testimony next quotes from the GAO report that "the farmers would not have paid the interest-subsidy price of $29 an acre-foot for the Dallas Creek water, let alone the full cost price of $104 an acre foot...," and that the Bureau's analysis is so flawed that if its "ability to pay analysis is accepted, the farmers should be paying $17 to $22 an acre for all WPRS water, no matter what the source." Dr. Blackwelder and the GAO, however, overlooked the provisions of the Reclamation Project Act of 1939, which makes interest on irrigation costs nonreimbursable by law. This Act places irrigation water users' repayment on a basis of payment ability rather than burdening them with all the costs, and the payment capacity studies for the Dallas Creek Project were done accordingly.

Moreover, the Bureau informs us that no attempt was made on its part to collect payment capacity in excess of actual costs on water from other sources because to do so would not have been consistent with existing contracts for water on other reclamation projects, such as the Uncompahgre Project. On October 8, 1981, the Uncompahgre Valley Water Users Association signed an R&B contract with the United States for $5,640,000. At that time their repayment ability was established at $2,040,000 a year or $31.15 per acre for 65,495 acres. Their contract payments begin in 1986 as follows:

Existing U.S. Contracts	$ 120,000
Dallas Creek Water	75,000
Operation, maintenance & replacement	1,468,000 1/
Reserve Fund	140,000
R&B Repayment	237,000
	$2,040,000

1/ Actual OM&R for 1980

The annual payment of $237,000 will pay off the R&B contract in 24 years.

The unused payment capacity GAO was trying to capture is needed to rehabilitate the 75 year old Uncompahgre Project, and according to the Bureau of Reclamation, the above figures represent a fair current ability of irrigators to repay costs.

Lastly concerning the GAO report, Dr. Blackwelder points out in his testimony that the GAO was further upset because the Bureau of Reclamation does not even know which acres or crops will receive the water. The reason for this is quite clear, the Dallas Creek water will be used by the Uncompahgre Valley Water Users Association to augment periods of low flow, when they cannot meet system demands from the Gunnison Tunnel project water. This will be during the pre-snowmelt germination season of April and May and during the peak crop maturation period of August and September when natural flows drop off. All Dallas water used will be apportioned equally among all users, and the additional water will increase production because of the critical timing of its use.

Salinity: The Environmental Policy Center attacks the Dallas Project's contribution to the salinity of the Colorado River, though admit it is small. Salinity generally is a problem with all storage and irrigation projects. It was the reason for the enactment of the Colorado River Basin Salinity Control Act (PL 93-320), which purpose is to enhance and protect the quality of water available in the Colorado River for use in the United States and Republic of Mexico and to assist the states so that they can use their water entitlements.

The Colorado River Compact of November 24, 1922 apportions the waters of the Colorado River among the upper and lower basin states for their use and development. The only way upper basin states can effectively use those entitlements is by the storage of the water. Dr. Blackwelder's argument, taken to its logical conclusion, is to shut down all upper basin state storage projects, denying their entitlement under the Colorado River Compact. The Dallas Creek project is a participating project of the Colorado River Basin Storage Project, authorized by the Colorado River Basin Project Act of 1968 (PL 90-537). Simply put, using salinity as a reason for mothballing the Dallas Creek project would set the ultimate bad precedent that Dr. Blackwelder seems so concerned about.

Water Conservation: The domestic water users in the Dallas Creek Project Area are in the forefront in utilizing methods of water conservation. Contrary to Dr. Blackwelder's testimony, the average daily per capita use is 210.4 gallons, and this figure is without adjustment for commercial and industrial users which include canning factories, a large candy factory, dairies and livestock feed lots. With adjustments for the commercial and industrial users, the per capita daily use is less than the national average.

So adjusted, the Tri-County District system use is 124.4 gallons per person per day. It must also be noted that this is an extremely arid area and domestic water must also be used for lawn and garden irrigation.

Within the past few years, all users have been placed on meters, the Town of Olathe and the City of Delta have completely replaced their distribution systems and the City of Montrose has extensively updated its system. All of the water entities have joined together and in 1981 completed the construction of a common water treatment and transmission facility, which is an example of the latest in design and efficiency. Further, the Cities of Montrose and Delta, again contrary to Dr. Blackwelder's assertions, have adopted straight-line rate structures which discourage, rather than encourage, excessive water use.

This concludes our response. Thank you again for your courtesy and cooperation at the hearing.

Sincerely,

Theodore L. Brooks

Theodore L. Brooks

Ann B. Vance

Ann B. Vance

AV:ns

Attorneys for Tri-County
Water Conservancy District

Senator NICKLES. Thank you, Mr. Brooks. Let me ask a question. Do you think, given the fact that we've heard the Commissioner state his support that we actually need legislation to confirm it? Or could you go on the assumption that that would be the assessment. Why the necessity for legislation?

Mr. BROOKS. It's our opinion as well as the State of Colorado's that this is an enforceable contract. However, if it was to be submitted to the courts for litigation we would have additional delays. The delays are the things that have caused the cost overruns now, or a major portion, large portion of the cost overruns. I think we would be successful. I think that it, however, would occasion excessive delays and increase in costs. And I think in fairness the Government should recognize its obligation.

Senator NICKLES. The case that would be brought about though wouldn't be brought about from the Government's perspective, at least at this time. So are you concerned it's possibly an outside group that would instigate a suit?

Mr. BROOKS. Yes. It could be an outside group or the Government at the time that the contract—or the construction was complete, if it were completed, would then refuse to deliver water to the district.

Senator NICKLES. Any comments?

Mr. MCDONALD. Senator, I might, if I might, add also that I think it's implicit if not explicit in the Commissioner's statement that he likewise thinks the legislation is needed. And I think while there is no dispute between the State and the district on the one hand and Reclamation on the other, our concern is just as you point out, that some third party not at interest will make at least veiled threats if not more noise than that about the possibility of litigation. And that would simply make the expense to all concerned even greater. I think, therefore, it's important that there be a bill to absolutely set that question aside.

Senator NICKLES. In your opinion if there was litigation do you think you'd be successful?

Mr. MCDONALD. We certainly do. We do not understand this contract to be in contravention of the reclamation law at all. It's an enforceable contract as it stands.

Senator NICKLES. You do not think it's in conflict with existing reclamation law?

Mr. MCDONALD. No, sir.

Senator NICKLES. Would you concur?

Mr. BROOKS. Yes.

Senator NICKLES. Concur with that?

Mr. BROOKS. Definitely.

Senator NICKLES. Well, gentlemen, we appreciate your comments——

Mr. MCDONALD. Thank you, sir.

Senator NICKLES [continuing]. Again before this committee and your interest. And we will keep the record open for an additional period of time to respond to some of the other earlier statements.

On our final panel we have Duane Sudweeks, director of Nevada Colorado River Commission from Las Vegas, and also Donald Paff, who is general manager and secretary, board of directors, Las Vegas Valley Water District from Las Vegas. And also Edward

Osann, who is director of water resources programs, National Wildlife Federation.

STATEMENT OF DUANE R. SUDWEEKS, DIRECTOR, COLORADO RIVER COMMISSION OF NEVADA, LAS VEGAS, NEV., ACCOMPANIED BY FRED SMITH, DEPUTY ATTORNEY GENERAL AND LEGAL COUNSEL TO THE COLORADO RIVER COMMISSION OF NEVADA

Mr. SUDWEEKS. Mr. Chairman and members of this committee, for the record, my name is Duane Sudweeks, director of the Colorado River Commission of Nevada. With me is Fred Smith, deputy attorney general who is legal counsel to the commission. Mr. Paff expressed regret that he couldn't appear here personally. He's the general manager of the water district, as you've mentioned. They serve as our operating agent for the project itself. He has submitted his statement for the record, however.

The first reason I'm here today is I'd like to present the testimony of the Honorable Richard Bryan, Governor of the State of Nevada in support of S. 818. Governor Bryan expressed regret that he was unable to appear here personally.

The second reason is to present a resolution of the Colorado River Commission of Nevada which also endorses this proposed legislation.

I request that both of these items be included as part of the record of this hearing.

I'll briefly try to summarize Governor Bryan's statement as best I can.

Governor Bryan indicated he was pleased to be able to provide testimony in support of S. 818 which has been recently introduced by Senators Laxalt and Hecht of the great State of Nevada. The bill, as has been previously mentioned, provides for the replacing of pump casings of 12 of the 14 horizontal centrifugal pumping units in pumping plants 1A and 2A, of the Robert B. Griffith water project that was formerly known as the southern Nevada water project, stage I, Nevada.

The two remaining casings have been replaced previously on an experimental basis. These 14 units pump treated, potable water from a forebay adjacent to the State-constructed Alfred Merritt Smith water treatment facility near the shore of Lake Mead through project water conveyance pipelines to terminal facilities which in turn feed the water distribution systems of the Las Vegas Valley Water District, the city of North Las Vegas, the city of Henderson, and Nellis Air Force Base, a Tactical Air Command facility. The city of Boulder City also receives potable water through other project facilities.

The operation of these existing pumps and motors has been totally unsatisfactory. Remedial actions to correct deficiencies inherent in these pumping units are critical to approximately 400,000 Nevada residents who rely on this project for their municipal and industrial water supply.

The first stage of this project was developed by the Bureau of Reclamation pursuant to the authority in Public Law 89-292. Hitachi American, Ltd. was the successful low bidder, and subsequently

furnished the pumps, motors and appurtenant equipment. The company also supervised the installation.

Shortly after they were installed, in January 1973 a unit was dismantled because of an unusual noise. Excessive cavitation damage was found as evidenced by holes that had actually penetrated completely through the impeller vanes. The cavitation damage was also apparent on the casings at the eye of the impeller. This particular unit had only been operated for 2,100 hours, which is equivalent to approximately 90 days of continuous operation.

In May 1973 an agreement was reached by the Bureau and Hitachi wherein the supplier proceeded with laboratory model testimony preparatory to fabrication of two new stainless steel prototype impellers for further testing in pumping plants 1A and 2A. Upon completion of this testing program and evaluation of other modifications, a further agreement between the Bureau and Hitachi provided that Hitachi would manufacture 14 new stainless steel impellers for installation. This agreement also provided for the installation of a welded steel, stainless steel actually, inlay on the casings at the approach to the eye of the impeller.

Installation of all these improvements was completed early in 1975. In October of 1977, however, observation of one of these units indicated cavitation damage was still occurring on the newly designed impellers as well as the casings adjacent to the stainless steel inlay. Subsequently, representatives of the State of Nevada met with the Bureau to ascertain whether a long-term solution could be provided for this continuing problem.

It was generally agreed at that time that all reasonable courses of action had been pursued. It was clearly evident, first of all, that these units would require far more than usual maintenance and two, they would have a significantly shorter life span than normal.

Costs expended on this effort——

Senator NICKLES. Mr. Sudweeks, let me kind of—I've read your statement.

Mr. SUDWEEKS. I'm trying to summarize it as best I can.

Senatnr Nickles. OK. We have one other statement that we need to catch.

Mr. SUDWEEKS. Yes.

Senator NICKLES. And I need to be moving on. So if you would kind of summarize it, I've got a couple of quick questions.

Mr. SUDWEEKS. OK. But anyway, the cost has previously been pointed out by Commissioner Broadbent. I won't detail again for you. There has been considerable costs expended not only by Hitachi by the State of Nevada. And the Bureau cost has to be repaid by the project water users.

Anyway, in a final effort to resolve these continuing problems associated with these units, the parties involved in July 1979 agreed to install two stainless steel prototype casings. If this approach failed, there appeared to be no other alternative other than to replace all of the pumps and motors with units that operate at a lower speed.

The result of this research program completed in 1980 are conclusive. They show the replacement of the existing cast steel casings with stainless steel casings is a final acceptable technical solution to the cavitation problems.

As you are well, aware, S. 818 would provide nonreimbursable funds to provide these stainless steel casings. The State of Nevada and its project water users would cost share in this effort by providing the necessary funding and manpower requirements to remove, rehabilitate and install this equipment.

In conclusion, Governor Bryan stressed that it is essential that the water needs of the southern Nevada area do not continue to be jeopardized by the impending failure of the existing pumping units. Further, he indicated that this matter is of vital importance to the residents of southern Nevada and urgently requested affirmative action on S. 818 at the earliest possible date.

I appreciate the opportunity to provide this testimony. We'd be happy to anwer questions that you have.

[The prepared statement of Mr. Sudweeks follows:]

SUBCOMMITTEE ON WATER AND POWER

COMMITTEE ON ENERGY AND NATURAL RESOURCES

MAY 2, 1983

BILL: S. 818

REQUESTED ACTION:

Approval of legislation to authorize the replacement of existing pump casings in the Robert B. Griffith Water Project (formerly the Southern Nevada Water Project) pumping plants 1A and 2A.

ATTACHED STATEMENTS FROM:

Governor Richard H. Bryan
State of Nevada

Resolution 83-2
Colorado River Commission of Nevada

WITNESS: Duane R. Sudweeks, Director
Colorado River Commission of Nevada

STATEMENT

before

SUBCOMMITTEE ON WATER AND POWER

COMMITTEE ON ENERGY AND NATURAL RESOURCES

by

HONORABLE RICHARD H. BRYAN

GOVERNOR OF NEVADA

presented by

DUANE R. SUDWEEKS, DIRECTOR

COLORADO RIVER COMMISSION OF NEVADA

MAY 2, 1983

****

Mr Chairman, Members of the Committee, I am pleased to be able to provide testimony in support of S. 818 which has been recently introduced by Senators Laxalt and Hecht of the great State of Nevada. This Bill provides for the replacement of pump casings for 12 of the 14 horizontal centrifugal pumping units in pumping plants 1A and 2A, Robert B. Griffith Water Project (formerly the Southern Nevada Water Project), Stage I, Nevada. The two remaining casings have been replaced previously on an experimental basis. These 14 units pump treated, potable water from a forebay adjacent to the State-constructed Alfred Merritt Smith Water Treatment Facility near the shore of Lake Mead through the project water conveyance pipelines to terminal facilities which in turn feed the water distribution systems of the Las Vegas Valley Water District, the City of North Las Vegas, the City of Henderson, and Nellis Air Force Base, a tactical air command facility. The City of Boulder City also receives potable water through other project facilities.

The operation of these existing pumps and motors has been totally unsatisfactory. Maintenance costs have been extraordinary, and it is clearly evident that the life span of these units will be significantly shorter than normal. Remedial action to correct deficiencies inherent with these pumping units are critical to approximately 400,000 Nevada residents who rely on the Robert B. Griffith Water Project for their municipal and industrial water supply.

The First Stage of the Robert B. Griffith Water Project was developed by the Bureau of Reclamation (Bureau) pursuant to the authority of P. L. 89-292. Contract specifications for the existing units in pumping plants 1A and 2A were prepared by the Bureau in 1968. Hitachi America, Ltd. (Hitachi) was the successful low bidder, and subsequently furnished the pumps, motors and appurtenant equipment; the company also supervised the installation. Responsibility for the operation and maintenance of the first stage of this project was transferred to the Colorado River Commission of Nevada (Commission) in November 1971.

In January 1973 a unit was dismantled because an unusual noise had developed. Excessive cavitation damage was found as evidenced by holes that had penetrated completely through the impeller vanes. The cavitation damage was also apparent on the casings at the eye of the impeller (intake side). This particular unit had been operated for only 2100 hours which is equivalent to approximately 90 days of continuous operation.

After disassembly of other units wherein the same wear characteristics were observed, the Commission notified the Bureau of this catastrophic problem. The Bureau communicated with Hitachi and outlined, in detail, the extensive cavitation problems which existed in these relatively new units. The one year warranty period had expired and Hitachi did not admit legal responsibility under the contract. Hitachi did, however, agree to reshape the leading edges of the vanes in all 14 impellers, and the company contributed $18,500 as its part of the costs. The Project water users assumed the responsibility of the remaining costs including the cost of dismantling and reassembling the units. After testing, it was apparent that the cavitation problem had not been solved.

In May 1973 an agreement was reached by the Bureau and Hitachi wherein the supplier proceeded with laboratory model testing preparatory to fabrication of two new stainless steel prototype impellers for further testing in pumping plants 1A and 2A. Upon completion of this testing program and evaluation of other modifications, a further agreement between the Bureau and Hitachi provided that Hitachi would manufacture 14 new stainless steel impellers for installation in the Robert B. Griffith Water Project pumping plants. This agreement also provided that the Bureau would use Robert B. Griffith Water Project funding, which the State of Nevada and its project water users would have to repay over the life of the project, to pay the approximately $150,000 cost to install a welded stainless steel inlay on the casings at the approach of the eye of the impeller (intake side).

In late 1974 installation of the newly designed impellers in the existing 14 units commenced. Operational tests on two of the units with these new impellers gave a positive indication that the pumps may now provide a more satisfactory service life. Thus, installation of all of the new impellers was completed.

In October 1977, observation of one of the units indicated cavitation damage was still occurring on the newly designed impellers as well as the casings adjacent to the stainless steel inlay. This resulted in further discussions between the Bureau and Hitachi. Additional remedial actions, including coating the interior of the casings, were tried. All of these additional efforts were unsuccessful.

In October 1978, representatives of the State of Nevada met with the Bureau to ascertain whether a long-term solution could be provided for this continuing problem. State representatives emphasized that the continuing pump unit problems were resulting in extremely high maintenance expenditures far in excess of what the Robert B. Griffith Water Project water users could have reasonably anticipated. It was generally agreed that all reasonable courses of action had been pursued by the parties involved, namely the Bureau, Hitachi, and State of Nevada and its operating agent the Las Vegas Valley Water District. It was clearly evident that (1) these units would require far more than usual maintenance and (2) they would have a significantly shorter life span than normal.

Costs expended on this effort from its inception in January 1973 approximate $1,000,000 by Hitachi, $300,000 by the State of Nevada and its Project water users and $150,000 by the Bureau. The Bureau costs must be repaid by the Project Water Users through the State of Nevada, with interest, pursuant to the repayment contract. The combined expenses of remedial measures far exceeds Hitachi's original bid of $920,300 for furnishing the pumps, motors, appurtenant equipment, and supervision of the installation.

Model tests and impeller redesign since the inherent problems were discovered in 1973 indicate that many factors were involved, i.e., the synchronous speed of the units (1200 revolutions per minute), the magnitude of suction and discharge head, the corrosive effects of the water and the type of materials used in the casings and impellers.

In a final effort to resolve the continuing problems associated with these units, the parties involved decided in July 1979 to install two stainless steel prototype casings. If this approach failed, there appeared to be no alternative left but to replace all of the pumps and motors with units having a synchronous speed of 900 revolutions per minute.

The results of this research program completed in 1980 are conclusive. They show that the replacement of the existing cast steel casings with stainless steel casings is a final acceptable technical solution to the cavitation problems.

S. 818 would authorize the Secretary of Interior to procure the pump casings and appurtenant equipment with nonreimbursable funds. The State of Nevada and its Project water users would cost share in this effort by providing the necessary funding and manpower required to remove, rehabilitate and install this equipment.

It is essential that the water needs of the Southern Nevada area do not continue to be jeopardized by the impending failure of these existing units. Given the vital importance of this matter to the residents of Southern Nevada, we urgently request affirmative action on S. 818 at the earliest possible date.

Mr. Chairman, I appreciate the opportunity to present this statement. Thank you for your consideration of this extremely important matter.

83-2 RESOLUTION

COLORADO RIVER COMMISSION OF NEVADA

WHEREAS, pursuant to P.L. 89-292 construction of the first stage facilities of the Robert B. Griffith Water Project, formerly the Southern Nevada Water Project, was completed by the United States Bureau of Reclamation (Bureau) in November of 1971; and

WHEREAS, the Bureau, under Solicitation No. DS-6637, furnished and installed the pumps, motors, and appurtenant equipment for the 50 cfs 2500 horsepower pumping units located in Pumping Plants 1A and 2A; and

WHEREAS, in January 1973, a unit was dismantled because of the development of abnormal equipment noises after performing for approximately 2,100 hours; and

WHEREAS, excessive pump damage was discovered due to cavitation; and

WHEREAS, the one-year warranty with the contractor, Hitachi America, Ltd., had expired; and

WHEREAS, subsequent maintenance and rehabilitation expenses have been excessive, costing Hitachi approximately $1,000,000, the water users $300,000, and the Bureau $150,000; and

WHEREAS, testing of the pumping units has resulted in the conclusion that stainless steel pump casings are required to replace the existing cast iron casings as a reasonable and most economical solution to the problem; and

WHEREAS, Legislation sponsored by Nevada's congressional delegation will be considered by the United States Congress authorizing nonreimbursable funds for the Secretary of Interior to purchase the stainless steel casings; and

WHEREAS, the water users have agreed to absorb the cost of the installation of the stainless steel casings and perform the necessary rehabilitation work;

NOW, THEREFORE, BE IT RESOLVED, the Colorado River Commission of Nevada supports the provisions of the proposed legislation and urges prompt consideration and enactment; and

BE IT FURTHER RESOLVED, that a copy of this Resolution be sent to Governor Richard H. Bryan, Senator Paul Laxalt, Senator Chic Hecht, Congressman Harry Reid, Congresswoman Barbara Vucanovich, United States Secretary of Interior James G. Watt, Commissioner of Reclamation Robert N. Broadbent, Senator James A. McClure (Chairman, Senate Committee on Energy and Natural Resources), Congressman Morris K. Udall (Chairman, House Committee on Interior and Insular Affairs), Senator Don Nickles (Chairman, Senate Subcommittee on Water and Power), and Congressman Abraham Kazen, Jr. (Chairman, House Subcommittee on Water and Power Resources).

Adopted and passed at a regular meeting of the Colorado River Commission of Nevada on March 10, 1983.

Jack Lehman

JACK LEHMAN, CHAIRMAN

Senator NICKLES. Thank you. I will interject just a couple of questions before we move on to our next panelist.

Mr. Sudweeks, so the cost there is estimated in 1982 dollars at $1.5 million?

Mr. SUDWEEKS. That's July 1980 dollars at $1.5 million that's in the bill. Is that the question?

Senator NICKLES. Those are what dollars, 1980?

Mr. SUDWEEKS. July 1980 dollars.

Senator NICKLES. So we're looking at what, $1.8 million or something?

Mr. SUDWEEKS. I haven't taken the trouble to escalate that up.

Senator NICKLES. What's the dollar value of this project in its entirety?

Mr. SUDWEEKS. We're probably looking in the neighborhood of $200 million totally. You've got—you must remember that this is a Federal and State effort. It was a joint effort. The Federal facilities consisted of the pumping plant, the transmission facilities. The State actually constructed a water treatment facility that's an integral part of this system.

Senator NICKLES. Do you have the breakdown of how much of that was Federal how much was State of the $200 million?

Mr. SUDWEEKS. Approximately $60 million of it was State facilities. The remainder would be, would be Federal facilities. That's approximate. I don't have the exact numbers. I can provide those for you if you would like me to.

Senator NICKLES. I would appreciate it.

Now, under the contract, isn't it the responsibility of the State and the recipients of the water, M&I, whatever, to pay the full operation and maintenance costs?

Mr. SUDWEEKS. Yes. We're responsible to pay the operation and maintenance costs for the facilities themselves.

Senator NICKLES. Do you think this case where these casings, by use of improper material or whatever reason for their deficiencies, that the Federal Government should bear that cost? Or should that cost be borne by the recipients of the water?

Mr. SUDWEEKS. We don't feel it's fair the recipients of the water be stuck with these additional costs because they had no input at all into the design, the construction of those pumping facilities. That was totally done by the Bureau of Reclamation. We've got something that was provided that was far inferior from the norm, so to speak. And it needs to be corrected. That's all there is to it. We need a solution to this problem.

And additionally, I think it's important that we point out that the State of Nevada and this project water users have already assumed close to half a million dollars in additional expenses because of the shortfalls of these pumps.

Senator NICKLES. For the shortfalls of the pumps, whose primary fault would you say that would be? Do you think it's the Bureau or do you think it's the manufacturer?

Mr. SUDWEEKS. Well, that's an area where, you know, you can't just totally point your finger in one direction. If you want my opinion I would say that, you know, rated on a scale of 1 to 100, I would say that at least something in excess of 50 percent of that fault belongs with the Bureau of Reclamation.

The previous Commissioner of Reclamation indicated to us at one time that he felt there was an error in judgment made relative to providing the design criterion for those pumps.

Senator NICKLES. Would you say that again?

Mr. SUDWEEKS. That was the previous Commissioner of Reclamation indicated in his opinion there was an error in judgment made when the design criterion was set for those pumps. That was Commissioner Higginson.

Senator NICKLES. Was that design criterion set by the Bureau?

Mr. SUDWEEKS. Bureau of Reclamation, yes.

Senator NICKLES. Are there other pumps that—well, I won't get into that.

Let me touch on your statement that you have conclusive evidence that this change or modification of the casing. I've worked in pump repair and I would seldom make that kind of remark, just from experience in maintenance, impellers, et cetera. If this particular design change did not work, who should bear the cost of replacing those pumps?

Mr. SUDWEEKS. The bill provides that this will be the final obligation of the Federal Government and we'd obviously have—the water users, would have to pick up any additional expenses from this time forward.

Senator NICKLES. What would it cost to replace those pumps at a lower RPM?

Mr. SUDWEEKS. We were looking back in 1980. Approximately $5 million to replace those pumps was the estimate at that point in time.

Senator NICKLES. Right now you're talking about replacing the casings, a million-and-a-half up to probably 1.8 or something?

Mr. SUDWEEKS. Yes.

Senator NICKLES. If you came in and brought in a a lower RPM on those pumps you could probably replace those at $5 or $6 million?

Mr. SUDWEEKS. That would be my guess today. That was the figure that was being used back 1½ ago. About $5 million. The motors would also have to be replaced, obviously.

Senator NICKLES. If this legislation is not passed—and as I'm sure you're aware, there is quite a lot of resistance on the House side—what would be the result? Then the users, the water users, would end up picking up this replacement cost? Because those casings are going to have to be replaced regardless of whether or not it's paid for by the Federal Government or by the user?

Mr. SUDWEEKS. There's no question about we've got to bring about a long-term solution to this continuing problem. However, we don't have any other mechanism of getting them replaced. Presently we don't have any bonding authority in the State to sell the bonds to accomplish this.

Senator NICKLES. What about the water fees?

Mr. SUDWEEKS. They could be raised, but you can imagine what impact that—dramatic impact that would have in order to raise that money in water fees over a short period of time.

Senator NICKLES. What are you selling water for now?

Mr. SUDWEEKS. Our present cost of water is about $120 treated per acre-foot.

Senator NICKLES. That's treated?

Mr. SUDWEEKS. Yes. That includes paying back our obligations as well as the cost of operation and maintenance.

Senator NICKLES. What's your annual O&M expense?

Mr. SUDWEEKS. I don't have a specific number. I could provide that for you.

Senator NICKLES. I would appreciate it if you would. And do you have a revenue figure that—off the top of your head, too, that your district would be—how much gross revenue you would have from the sale of water?

Mr. SUDWEEKS. I'm sorry, I didn't catch the point of the question.

Senator NICKLES. What I'm looking for is kind of what are your operation receipts and expenditures?

Mr. SUDWEEKS. We sell water at cost. We're a wholesaler of water.

Senator NICKLES. OK.

Mr. SUDWEEKS. And so there would be no markup at all.

Senator NICKLES. OK. Well how much water, then, are you selling or how much total revenue are you receiving per year?

Mr. SUDWEEKS. We—our use last year was in the neighborhood of 140,000 acre-feet. And simply multiplying that with the approximately $120 per acre-foot would give you our gross receipt.

Senator NICKLES. So that——

Mr. SUDWEEKS. That includes electrical costs, all costs.

Senator NICKLES. That would include what?

Mr. SUDWEEKS. That includes all costs.

Senator NICKLES. So that would be——

Mr. SUDWEEKS. I didn't bring a calculator.

Senator NICKLES. $14 million a year?

Mr. SUDWEEKS. Sounds about right.

Senator NICKLES. Going about one—sixteen point—$17 million a year or something like that?

Mr. SUDWEEKS. I think your first number's a little closer.

Senator NICKLES. If you would provide those numbers.

Mr. SUDWEEKS. I would be glad to provide that information rather than guess at it. Those are in the ball park but not exact.

Senator NICKLES. I would appreciate it. And include your O&M number.

Mr. SUDWEEKS. I'd be glad to do that.

Senator NICKLES. Thank you very much.

Mr. Osann?

STATEMENT OF EDWARD R. OSANN, DIRECTOR, WATER RESOURCES PROGRAM, NATIONAL WILDLIFE FEDERATION, WASHINGTON, D.C.

Mr. OSANN. Thank you, Mr. Chairman. I appreciate the opportunity to present testimony before the subcommittee. I won't attempt to go through all the details of our statement. I'd just like to make a couple of remarks.

With respect to S. 622, the reclamation feasibility studies bill, our testimony points out the unresolved question of cost sharing and that the Department of the Army now requires 50 percent, 50

percent cost share on new feasibility studies. And we would urge the subcommittee to establish the same standard for the Bureau.

We would also point out our concerns with regard to the repeal of planning criteria. That had been in effect for about 2 years. Effective this July the planning and evaluation criteria for new Federal water projects for the corps, the Bureau, the SCS would be repealed and shifted to a nonbinding guideline status, apparently to provide more flexibility for the Federal planners. We feel this is a very questionable practice that undermines the consistency and the predictability that citizens and local governments have come to look for in Federal water project planning. And we would urge the committee to address this matter before providing the Bureau with additional authority to undertake new feasibility studies.

With regard to one project proposed in the list there in S. 622, the Prairie Bend project in Nebraska, we have concerns that the project in its present form would be fundamentally flawed and recommend four items to deal with several of the outstanding questions posed by that project.

One of the points I'd like to make is that the geographic scope of this project has been somewhat vague. And we would recommend that the committee clarify that geographic scope with regard to any irrigation studies on Prairie Bend to exclude the Twin Valley area.

Now the Twin Valley area in addition to the Prairie Bend area would nearly double the amount of water potentially to be withdrawn from the Platte River and would require a location for the withdrawal that would guarantee problems with the maintenance of riparian habitat that is necessary to sustain endangered species and other migratory birds.

And most notably, the people, the potential beneficiaries as it were, in the Twin Valley area don't want the project. They have been circulating petitions. And as of March of this year the owners of approximately 55 percent of the agricultural acreage in the Twin Valley service area have signed petitions opposing the project.

And with the permission of the Chair, I would like to submit for the record copies of a letter submitted by the landowners' group indicating their problems with the project and their concerns and the fact that over 50 percent of the landowners are now opposed.

Senator NICKLES. That's 50 percent of the landowners that are in what? Twin Valley?

Mr. OSANN. The Twin Valley service area, yes. The owners of in excess of 55 percent of the agricultural acreage.

Senator NICKLES. Thank you. It will be included as part of the statement.

Mr. OSANN. Thank you, Mr. Chairman.

Moving on very briefly to the Dallas Creek bill, S. 662. I would just like to point out that Congress is not required to confirm water supply contracts. The Bureau of Reclamation has something over a dozen contracts with various water users under the 1958 Water Supply Act. The Corps of Engineers has over 150 contracts with water supply beneficiaries under the Water Supply Act.

Dozens of these contracts, I would venture to say, are in Oklahoma and a number of other States around the country. Why is it

necessary to confirm this particular contract? In our view it's necessary because this contract is fatally and legally flawed. And in our feeling, in our view, the contract should be able to withstand the scrutiny of the judicial system rather than requiring legislation to endorse any questionable provisions contained in that contract.

It was noted earlier today that the view of the project sponsors that it is in conformance with reclamation law. But the law at issue here is the 1958 Water Supply Act. This contract was purportedly entered into pursuant to authorities in that act. And the act is quite explicit that all costs allocated to M&I water supply are to be reimbursed.

Now, if the water is not—If the M&I water is not worth $73 million to the potential beneficiaries, to whom is it worth that much money? I submit it may be worth that much to the State of Colorado who have an interest in capturing their allocation, the State's allocation, of Colorado River water under the Colorado compact.

We feel that a more appropriate solution than this bill would be for the Bureau to go out and identify additional users or additional participants who are willing to make up the difference in the cost. And perhaps that would be the State of Colorado itself.

Finally, I would just like to note on the S. 818, the southern Nevada water project, this is not a large amount of money. And frankly, the environmental aspects of this particular bill are not what is of immediate issue as far as our concerns go. But the bill would have the effect of the Federal Government assuming the major risk for equipment failures at this project, we think setting an undesirable standard.

The standard repayment contract language calls for the beneficiaries to assume the responsibility for project operation, maintenance, and replacement. And clearly, that falls within the scope of what we're talking about here this morning. In our view, the Bureau should not become the insurer of first resort let alone last resort. And the answer to all unforeseen problems with reclamation projects should not be the designation of costs as nonreimbursable.

Thank you, Mr. Chairman, for the opportunity to present our statement this morning.

[The prepared statement of Mr. Osann follows:]

NATIONAL WILDLIFE FEDERATION
1412 Sixteenth Street, N.W., Washington, D.C. 20036 202—797-6800

STATEMENT OF EDWARD R. OSANN
DIRECTOR, WATER RESOURCES PROGRAM
NATIONAL WILDLIFE FEDERATION
BEFORE THE
SUBCOMMITTEE ON WATER & POWER
COMMITTEE ON ENERGY & NATURAL RESOURCES
UNITED STATES SENATE
May 2, 1983

My name is Edward Osann. I am the Director of the National Wildlife Federation's Water Resources Program. The Federation, with over 4.2 million members and supporters nationwide, is America's largest conservation organization. During the past decade, our membership has adopted more than 50 resolutions establishing Federation policy on various aspects of water resource conservation and development. The Federation and its affiliates have a history of working with state officials and the Federal construction agencies to resolve differences over water projects or policies. We have commented on scores of water projects; we have initiated rulemakings and policy changes; we have negotiated changes in specific projects; and, when all else failed, we have gone to court to enforce environmental planning requirements. We have committed substantial time and effort to the initial development--and now the defense--of the Water Resources Council's procedures for the planning and evaluation of Federal water projects. We have strongly supported legislative efforts, on both appropriations and authorizations, to redirect the Federal water resources development program.

Mr. Chairman, I appreciate the opportunity to present testimony to the subcomittee this morning. My prepared statement will be directed to the Reclamation Feasibility Study bill, S. 622, which includes the Prairie Bend project, Nebraska; the Dallas Creek bill, S.662; the Santa Maryarita project authorization, S. 805; and the Southern Nevada Project pump casings bill, S. 818.

NWF 5/2/83

S. 622--Reclamation Feasibility Studies

This bill would authorize 13 studies of potential Reclamation projects in 7 of the 17 Western states served by the Bureau. The bill contains no requirement for cost sharing, in contrast with the House-passed version of a nearly identical bill in the last Congress. The Department of the Army now requires a 50% cost share for new Corps of Engineers studies, and we urge the committee to establish a similar level for the Bureau. Requirements for non-Federal cost sharing are essential if Congress is to expedite the most needed studies and define high priority projects. How high a priority can a project be if the states and localities are unwilling to share half of the cost of a feasibility study?

It should be noted that as of July 8 of this year, the Bureau will have new "flexibility" to esablish the feasibility of the projects it studies. In 1979 and 1980, the U.S. Water Resources Council developed improved planning and evaluation procedures that would weed out unsound proposals while at an early stage. More recently, however, Interior Secretary Watt has been leading an attack against these planning rules. On September 9, 1982, the WRC voted to repeal all of its planning rules, and substitute unenforceable guidelines in their place. In addition to downgrading their status, the WRC, chaired by Secretary Watt, also elimiated environmental quality as a primary planning objective.

For the sake of giving more "flexibility" to the Federal dam-building bureaucracy, the Administration has undermined the planning process by diminishing consistency and predictability. Without concurrent action to restore binding planning and evaluation criteria, the National Wildlife Federation is opposed to the enactment of new feasibility studies for the Bureau or any other Federal water resource development agency.

Prairie Bend, Nebraska

While S. 622 contains a number of studies that may be worthwhile, the Prairie Bend proposal has been highly questionable right from the start. The pattern is all too familiar: a water resource project that many consider to be marginal is placed on a collision course with environmental resources that many consider to be outstanding. While we recognize that this is "only a study," for the reasons stated above we are not sanguine about the Bureau developing a feasibility study under either the language of S. 622 or the language of S. 681, introduced by Senator Exon.

We urge that the following issues be addressed in any legislation dealing with Prairie Bend:

1) Establish environmental quality as a coequal planning objective, written into the study authorization. The Big Bend area of the Platte River is one of the most important migratory bird habitats on the North American continent. To pursue a multi-million dollar study of irrigation development without exploring opportunities for stabilizing, and indeed rejuvenating, this habitat would be a waste. This resource warrants more than mere impact assessment.

2) Require responsible local groundwater management. In Nebraska, irrigation districts have broad authority to undertake groundwater management under a 1975 state law. However, the Central Platte Natural Resources District, the principal local sponsor of the Prairie Bend project, has failed to exercise this elementary step toward local self-help. The Bureau should not pursue this study without tangible movement by local officials to address one of the major problems that is the object of the study.

3) Clarify the scope of any irrigation studies to exclude the Twin Valley area, in Dawson and Buffalo Counties. The inclusion of the Twin Valley area nearly doubles the potential withdrawals of water from the Platte River, and would require such diversions to be drawn at a point that would produce serious conflicts with riparian habitat. Most notably, the people in the Twin Valley area don't want the project. As of March of this year, owners of some 55% of the agricultural acreage in the Twin Valley service area had signed petitions opposed to the project.

4) Deauthorize the defunct Nebraska Mid-State Project. P.L. 90-136 authorized construction of a major Bureau project in this same Central Platte area. As originally authorized, the Mid-State project envisioned the construction of 23 reservoirs of various sizes for the storage and conveyance of some 500,000 acre-feet of Platte River water per year. Several of the major national conservation organizations joined to name the Mid-State project as one of the 13 top "disasters in water development."

The Mid-State project was rejected by its intended beneficiaries in a vote nearly eight years ago. Congress ought not consider any new projects in this area without reaching a final decision on the one still on the books. If not now, when?

NWP 5/2/83

S. 662--Dallas Creek Repayment

S. 662 would excuse local sponsors of the Dallas Creek Project, Colorado, from the standard obligations required of municipal and industrial water users under the Water Supply Act of 1958. The bill would require that Federal taxpayers--rather than local project sponsors--assume over $35 million in construction costs allocated to M & I water. Under present law, water users are required to repay the Federal government for such costs. S. 662 would set a bad precedent for the Bureau, local sponsors, and water resource management throughout the country.

Congress should expect that any precedent set on Dallas Creek will be eagerly exploited by the intended beneficiaries of other Reclamation projects now experiencing cost overrruns. The precedent could also extend to the Army Corps of Engineers, which operates under the same law as does the Bureau--the 1958 Water Supply Act--which requires that all costs attributable to municipal and industrial water supply be fully repaid, with interest.

Supporters of S. 662 contend that the bill merely "confirms" the terms of the existing repayment contract between the Bureau and the local project sponsor, executed on January 14, 1977. This contract, however, contains a provision of questionable legality placing a fixed ceiling of $38 million on the M & I repayment obligation, notwithstanding that costs attributable to M & I purposes now are estimated to total $73.2 million. If this repayment contract is indeed valid, as the proponents of S. 662 contend, its provisions should withstand the scrutiny of our judicial system, rather than requiring legislation to supersede the legitimate tests of contract law. Congress is not required to "confirm" water supply contracts, and does not routinely do so. S. 662 would constitute an unusual Congressional intervention to embrace this "sweetheart" contract provision.

Supporters of the bill further contend that the repayment of increasing construction costs should be waived, since much of the overruns are attributable to design changes to improve dam safety in the wake of the Teton Dam collapse. However, the rationale for separating out costs attributable to dam safety from the reimbursement requirements of new dams is no more convincing, in our judgment, than the nonreimbursement of dam safety costs at existing dams, and could produce dangerous distortions of agency decision-making with regard to dam safety.

The construction of the Dallas Creek project is not without substantial environmental impacts. The project will inundate about 5 miles of the Uncompahgre River, while further dewatering its tributary, Dallas Creek. Critical deer wintering range will be reduced by approximately 1,000 acres. And, downstream salinity problems in the Colorado River--already serious--will be aggravated.

But the larger principle at stake is the underlying issue of reimbursement and cost recovery. We ought not allow Dallas Creek water users to carve out a new Federal water subsidy, above and beyond those already on the books. Our experience throughout the country has confirmed that when water users are shielded from the true cost of Federal projects, water tends to get wasted rather than conserved, and pressure continuously arises for more subsidized water development.

Even if a case could be made that the repayment obligation of the Tri-County Water Conservancy District should be limited to the 1977 contract terms, it does not follow that the Bureau should be released from its obligations under the Water Supply Act. In our view, the Bureau had better rustle up some more buyers for Dallas Creek water to make up the $35 million difference (including, possibly, the State of Colorado itself), or face action under the Anti-Deficiency Act for expenditure of funds in the absence of adequate authorization.

S. 805--Santa Margarita Project

S. 805 would authorize the construction of two dams and associated pipelines and facilities at a cost of over $200 million, in the absence of a current, completed feasibility report and over the previously stated objections of the State of California. The project, as presently understood, would involve substantial impacts on scarce arid zone riparian habitat. We object to the authorization of the Santa Margarita project prior to the completion of a final Environmental Impact Statement and a final Feasibility Report. S. 805, as introduced, would relinquish important oversight of this proposal to the Secretary of the Interior. Enactment of S. 805 at this time would be premature.

NWF 5/2/83

S. 818--Southern Nevada Water Project

S. 818 would designate some $1.8 million associated with the Southern Nevada Water Project as nonreimburseable. While not a large sum, the waiver contained in this legislation sets a bad precedent for the Federal water resource program. In our view, the beneficiaries of Federal water projects should be responsible for their repayment. A departure from this principle tends to encourage waste, rather than wise use and conservation.

S. 818 would, in effect, have the Federal government assume the major risk for equipment failures at the Southern Nevada Project, when standard repayment contract language calls for the beneficiaries to assume responsibly for project operation, maintenance, and replacement. The Bureau should not become the "insurer of first resort," and the answer to all unforeseen problems with Reclamation projects should not be the designation of costs as nonreimburseable. Supporters of S. 818 carry a heavy burden to establish that pump casing replacement is so onerous that legislation should be enacted to supercede contractual repayment obligations.

March 22, 1983

The Honorable Virginia Smith
1005 Longworth Office Building
Washington, D.C. 20515

Dear Congresswoman Smith,

The following is a follow-up to the letter I wrote you two weeks ago concerning the proposed Twin Valley/Prairie Bend Irrigation project in Central Nebraska. I am certain you are aware of Save Our Land's concern about this project as it closely resembles the MidState Irrigation project which was defeated by the voters in 1975. We presently have the signatures on petitions we have been circulating in opposition to the project of 704 landowners and 105 homeowners within the district who are voicing the following concerns:

1. Possible de-watering of the Platte River. Many landowners feel the Platte is necessary to recharging the underground aquifer. To divert Platte River waters to the proposed reservoirs in their present locations would serve only to recharge the Loup basin as the Platte is 70' higher in elevation at Gibbon than the Loup River.
2. The condemnation of 57,820 acres of prime farmground for project purpose. This includes 21,316 acres of land presently under irrigation, with 50 pivots and 107 farmsteads being destroyed.
3. The project is partly being justified by charging landowners for recharge of the underground aquifer. Landowners are concerned as to how this recharge will be determined. They question how any method can be adopted that would determine their wells are being recharged by the project or by natural means.
4. How much more prime farmground will be lost to waterlogging? Reservoirs and canals do leak. Landowners fear that irrigated ground producing 200 bushel per acre corn will be rendered useless by seepage and high alkaline content.
5. Increased taxation within the district. Many landowners feel they will be heavily taxed to pay for a project that will not pay for itself whether or not they receive any benefits from the project.
6. Homeowners in villages and towns near the reservoirs are concerned about the inevitable increase in crime and the burden it will place on local law enforcement agencies. City water and sewer systems are strained to capacity and could not handle the added burden of potential recreationists.
7. Under the PIK program the federal government is paying farmers not to raise grain. Why destroy prime farmland to raise more crops that nobody wants?
8. Our wells are not declining as the proponents say. We personally pulled a well last summer on our farm and discovered it rose 10 feet. Why should farmers who use good conservation practices be penalized for those who are attempting to irrigate marginal land?
9. Over 50% of the landowners within the proposed district have indicated through the petitions that this project is not wanted or needed. We have yet to discover one landowner who favors this project that wants surface water delivery. If the farmers who are supposed to benefit from this project will not take surface water delivery, how will this project be paid for?

I realize that the concerns and burdens of your position are many. It is very difficult to keep abreast of issues that were initiated 8 years ago. I am enclosing an essay written by Amherst high school senior for his English class. At 18 years of age, this young man has aced this project clearly in perspective, far better than any of us who have been involved th this project for many years. I enclose this essay for your scrutiny and respectfully quest that it be entered in the Congressional Record.

We hope to receive an answer soon as to when our Board of Directors can meet with you on ur return to Nebraska.

Thank you.

Sincerely,
Paula Stehr

PRAIRIE BEND-TWIN VALLEY
WATER RESOURCES
PRE-FEASIBILITY STUDY
Sponsored By
Central Platte Natural Resources District
Central Nebraska Conservation Association
Twin Valley Conservation Association

ALTERNATIVE NO. 6: TWIN VALLEY PLAN

Landowners in the Elm Creek and Riverdale area are interested in developing a water supply project. An organization, Twin Valley Conservation Association, has filed for water rights for diversion from the Platte River and have identified several potential storage sites. Alternative No. 6 shows the location of this project, the area it will serve and the identified potential facilities. It would be operated to serve the area through both surface irrigation facilities and increased recharge to ground water pumpers.

STATISTICS
ALTERNATIVE NO. 6
TWIN VALLEY PLAN

Storage Reservoirs	Elm Creek Turkey Creek 1,2,3 Wood River 1,2 Dry Creek Center Buckeye
Supply Canal	
Capacity	330 cfs
Length	445 miles

COST ESTIMATES
(1979 Cost Basis)

Diversion dam		$ 2,000,000
Supply canal and siphons		25,700,000
Dams and reservoirs		97,100,000
To be selected from:		
Elm Creek Dam	$14,600,000	
Turkey Creek 1,2,3 Dams	47,100,000	
Wood River 1,2 Dams	43,600,000	
Dry Creek Dam	12,900,000	
Center Dam	13,300,000	
Buckeye Dam	20,600,000	
Total Construction Cost	$124,800,000	
Indirect costs (legal, administrative, engineering)		$ 37,440,000
Total Project Costs		162,240,000
Cost per acre benefited		$ 927

Senator NICKLES. Thank you very much, Mr. Osann. We're happy to accommodate you before this committee.

That's the conclusion of the panelists. We will keep the record open for additional comments or possibly questions from other members of the committee.

Thank you very much.

[Whereupon, at 11:15 a.m., the hearing was adjourned.]

APPENDIX

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

STATE OF COLORADO

COLORADO WATER CONSERVATION BOARD
Department of Natural Resources
823 State Centennial Building
1313 Sherman Street
Denver, Colorado 80203
Phone: (303) 866-3441

Richard D. Lamm
Governor

J. William McDonald
Director

David W. Walker
Deputy Director

May 10, 1983

The Honorable Don Nickles, Chairman
Subcommittee on Water and Power
Committee on Energy and Natural Resources
United States Senate
Washington, D. C. 20510

Dear Senator Nickles:

This letter is written with respect to S. 622, a bill to authorize the Secretary of the Interior to undertake feasibility investigations. It would be appreciated if this letter could be entered into the official record of your subcommittee's hearings on this bill.

The state of Colorado supports the inclusion in S. 622 of the authorization of the Saline Water Use and Disposal Opportunity Unit, Colorado River Water Quality Improvement Program. The inclusion of this unit in the bill was recommended by Commissioner Broadbent in his testimony to the subcommittee on May 2, 1983.

The Saline Water Use and Disposal Opportunity Unit is an important component of the basinwide, cooperative program to control salt loading in the Colorado River basin. The beneficial use of saline waters through industrial application holds promise to make a significant contribution to the joint efforts of the federal government and the seven Colorado River Basin states to address the salinity of the river. Authorization of the unit will give the Bureau of Reclamation the authority to proceed in a timely manner with the identification and study of potential industrial use opportunities.

I urge the subcommittee to act favorably and expeditiously to include the unit in S. 622 and move the bill forward for the full Senate's consideration.

Sincerely,

J. William McDonald

J. William McDonald
Director

23-792 O—83——12

Fallbrook Farm Bureau Center
P. O. Box 623, Fallbrook, CA 92028

April 22, 1983

The Honorable Pete Wilson
United States Senate
Washington, D.C. 20510

Re: S. 805

Dear Senator Wilson:

The Board of Directors and members of our center appreciate your efforts in support of the Santa Margarita Project. As you probably know, the people of Fallbrook have worked very hard to obtain approval for the Santa Margarita Project.

With the loss of Colorado River water in 1985, the dam takes on greater importance. This is especially critical for agriculture in our areas as most of the commercial production is in tree crops. Loss of water for a short time during the hot months would not only jeopardize the crop on the trees, but could have significant impact on future crops.

We have enjoyed your continued support of the Santa Margarita Project and look forward to working with you on this important issue.

Sincerely,

Charles Wolk

Charles Wolk, President
Fallbrook Center
San Diego County Farm Bureau
California Farm Bureau Federation

CW/am

FALLBROOK CHAMBER OF COMMERCE
[illegible] • FALLBROOK, CA 92028 • 619/728-5645

April 22, 1983

Senator Pete Wilson
United States Senate
Washington, D.C. 20510

Dear Senator Wilson:

The Fallbrook Chamber of Commerce appreciates your introducing S. 805 to authorize the Santa Margarita Project. This long overdue project is of major importance to the water needs of Fallbrook and the adjacent Camp Pendleton Marine Corps Base.

The proposed water storage facilities are imperative to the needs of our community and Camp Pendleton and this need will magnify as Colorado River water is diverted to Arizona in 1985.

We believe this project is the best solution to securing an adequate water supply while preserving our natural resources. We thank you for your support of this project which will benefit the residents of our community and Camp Pendleton.

Sincerely,

Roy B. Hiscock

Dr. Roy B. Hiscock
President

RBH/chg

SUNSHINE PROPERTIES
OF FALLBROOK • (714) 728-5895

May 3, 1983

Senator Don Nickles, Chairman
Energy and Natural Resources Committee
Water and Power Subcommittee
U. S. Senate
Washington, D. C. 20510

Dear Sir:

We are writing to encourage your support of Senate bill S 805 which will authorize the Santa Margarita Dam project in Fallbrook. The completion of this project is critical for our water needs in the future. Please give this bill your active support.

Thank you,

Lynn Stadille-Westhoff

Charlotte A. Morel

Joanne E. Eyer

Florance Wardrop

1075 S. MISSION • SUITE B • FALLBROOK, CALIFORNIA 92028

COUNTY OF SAN DIEGO

SUITE 501 • 440 FIRST STREET, N.W.
WASHINGTON, D.C. 20001 • PHONE (202) 737-7523

WASHINGTON OFFICE
ROGER F. HONBERGER

May 9, 1983

Dear Mr. Chairman:

On April 20, 1983, the San Diego County Board of Supervisors passed the enclosed resolution reaffirming its support for the Santa Margarita Project as embodied in S. 805 and H.R. 1581. The Board also urges Congressional approval of both Senate and House measures at the earliest possible date so that construction can be completed in time to reduce potential water shortages in San Diego's North County area.

I urge you to support construction of the Santa Margarita Project and passage of S. 805. If you have any questions, please let me know.

Sincerely yours,

Roger F. Honberger
Washington Representative

Honorable Don Nickles, Chairman
Subcommittee on Water and Power
Committee on Energy and Natural
Resources
United States Senate
A-420 Immigration Building
Washington, D.C. 20510

RFH:jfm

Enclosure

WEDNESDAY, APRIL 20, 1983

No. 7

RESOLUTION OF THE SAN DIEGO
COUNTY BOARD OF SUPERVISORS
REAFFIRMING SUPPORT FOR THE
SANTA MARGARITA PROJECT

ON MOTION of Supervisor Fordem, seconded by Supervisor Hedgecock the following resolution is adopted:

WHEREAS, the Board of Supervisors recognizes that San Diego County's semi-arid climate limits development of local water supplies; and

WHEREAS, it is further recognized that delays in completing the State Water Project, and pending reductions in the supply of Colorado River water to Southern California, may lead to widespread water shortages for existing and future residents of the San Diego region; and

WHEREAS, the Board of Supervisors has established the County Water Independence Project for the purpose of identifying methods which might be utilized to reduce the region's dependence on imported water; and

WHEREAS, the Board of Supervisors has previously endorsed the Santa Margarita Project (7/14/82-#3) as a necessary and integral component of San Diego County's effort to expand local water supply and storage capabilities, particularly in the North County area, which has a critical shortage of storage facilities to meet emergency or drought conditions; and,

WHEREAS, the Santa Margarita Project will improve and expand upon the successful water management program at the Marine Corps Base at Camp

Pendleton, and provide a supplemental water supply for the significant agricultural economy of the Fallbrook community, which lacks a reliable imported water supply;

NOW THEREFORE BE IT RESOLVED that the Board of Supervisors reaffirms its support for the Santa Margarita Project as embodied in H.R. 1581 (Packard) and S. 805 (Wilson), and urges Congressional approval of these measures at the earliest possible date so that construction can be completed in time to reduce potential water shortages in North County.

BE IT FURTHER RESOLVED that the Board of Supervisors will cooperate fully with all parties to resolve any identified economic and/or environmental impacts resulting from current studies.

PASSED AND ADOPTED by the Board of Supervisors of the County of San Diego, State of California, this 20th day of April, 1983. by the following vote:

AYES: Supervisors Fordem, Hedgecock, Williams
NOES: Supervisors None
ABSENT: Supervisors Hamilton, Eckert

STATE OF CALIFORNIA)
County of San Diego) ss.

I, PORTER D. CREMANS, Clerk of the Board of Supervisors of the County of San Diego, State of California, hereby certify that I have compared the foregoing copy with the original resolution passed and adopted by said Board, at a regular meeting thereof, at the time and by the vote therein stated, which original resolution is now on file in my office; that the same contains a full, true and correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of said Board of Supervisors, this 20th day of April, 1983.

PORTER D. CREMANS
Clerk of the Board of Supervisors

(SEAL)

By Dona E. Trumble Dona E. Trumble
Deputy

SANTA MARGARITA PROJECT

Northern San Diego County, California

Testimony prepared by Emily Durbin
San Diego Chapter of the Sierra Club
for the May 2, 1983 Hearing of the
Senate Subcommittee on Water and Power
Senator Don Nickles, Chairman

San Diego Chapter
of the Sierra Club

House of Hospitality, 1549 El Prado, Balboa Park
San Diego, California 92101

April 26, 1983

Senator Don Nickles, Chairman
Senate Subcommittee on Water and Power
713 Hart Senate Office Building
Washington, DC 20510

Chairman Nickles and Members of the Water and Power Subcommittee:

I would like to have been here in person to testify before you on behalf of the San Diego Chapter of the Sierra Club about the authorization of the Santa Margarita Project, but the high cost of air travel prevented me from doing so.

However, we have prepared for the record and for each of you a folder of material expressing some of our concerns about the Project. We have also prepared a photographic exhibit to be included in the record and to be kept in the Subcommittee file where it will be available to you for review. We hope that you will take a few minutes to look at the pictures, become a little more familiar with the river you will be considering, and appreciate why we think the Santa Margarita is such an important natural resource in our semi-arid San Diego County.

- The Santa Margarita River system is an undisturbed 27-mile continuous corridor of riparian vegetation which supports an extraordinary diversity of plant, bird and animal species, many of them rare or endangered. It is highly productive because successful breeding and nesting can occur here due to the concentration of food and living spaces.
- Santa Margarita represents 20% of the remaining riparian habitat in San Diego County. Loss of this habitat means loss of the birds and associated wildlife. They cannot move on to other places because these places are already filled to maximum capacity.

The Fallbrook reservoir was first proposed in the 1920's and has been revived periodically, most recently in 1972. The Economic Feasibility Report and the Environmental Statement were prepared in 1975 and 1976. Studies have been authorized and funded by the Congress to bring economic, design engineering, seismic, and environmental information up to date. UNTIL THESE STUDIES ARE COMPLETED AND HAVE BEEN MADE AVAILABLE FOR FULL PUBLIC REVIEW, WE BELIEVE IT IS PREMATURE TO CONSIDER AUTHORIZATION OF THIS PROJECT.

The bill before you, sponsored by Senator Pete Wilson, like its companion, HR 1581, sponsored by Representative Ronald C. Packard, seeks conditional authorization before the results of

these studies are known, contingent on a later finding by the Secretary of the Interior, James G. Watt, that the economic and environmental studies are acceptable and the Project is consistent with what they recommend, including mitigation of the adverse impacts on a rich and irreplaceable wildlife resource.

Furthermore, once Secretary Watt has estimated construction costs, the Project may not be changed in any way without the concurrence of the Secretary of the Navy. Secretary Watt is also given the authority to determine what Fallbrook, the sponsor since 1920 of this Project, will have to pay in reimbursable costs, REGARDLESS OF ANY OTHER EXISTING LAW.

While the Santa Margarita Project will never approach the magnitude of the Tennessee-Tombigbee or the Garrison Diversion Dam, nevertheless the cost is presently estimated at $190,000,000 plus interest and rising. As written, S 805 and HR 1581 give Secretary Watt virtually a blank check and a free hand in determining how the Project will be designed, how it will be mitigated, and how it will be paid for. At least 75% of the cost will be borne by the U.S. taxpayers. They have made clear, as has the Administration, their support for fiscal responsibility. We do not believe that conditional authorization would be fiscally responsible.

We do not understand how Senator Wilson, Congressman Packard, and Governor Deukmejian of California, Republicans all, can be so eager to support a project about which so little is currently known and for which the full economic details will be revealed to them by Secretary Watt after authorization has already been granted!

We respectfully request this Committee not to authorize the Santa Margarita Project until all of the updated information is available to you and to the public for full review.

We would also like to request that Field Hearings be held in San Diego prior to authorization to allow local residents the opportunity to express their concerns about the project.

Finally, we urge the Project Sponsors, Fallbrook Public Utility District and the U.S. Marine Corps at Camp Pendleton, to seriously explore alternatives to 180,000 acre-foot surface reservoirs in a region of high evaporation rates; alternatives which offer other ways to meet what may be legitimate needs.

San Diego and the State of California are beginning to work on a policy of water resources management. It is time to think about new ways to solve water problems, rather than rely on the tired old solutions of the past with their unacceptably high economic and environmental costs.

We would like to be kept informed in a timely manner of any attempts to move this bill in order that we may present testimony.

Very truly yours,

Emily A. Durbin

Emily A. Durbin, Vice-Chair
Conservation Committee

San Diego Chapter
of the Sierra Club

House of Hospitality, 1549 El Prado, Balboa Park
San Diego, California 92101

24 April 1983

Senator Don Nickles
Chairman, Senate Water & Power Sub-Committee
U.S. Senate
Washington, D.C. 20510

Hon. Sen. Nickles:

We understand that you have scheduled for May 2 a hearing before your Sub-Committee on the Santa Margarita River Project. We have been and are deeply concerned about the Project and have expressed our concern to your previous Chairman, Sen. Murkowski as well as our Congressional Representatives.

We have been assured that no hearings would be held pending the release of additional and updated data on the Project. The most current data is at least 10 years old.

Congress has allocated $300,000 for studies on the Project. The Bureau of Reclamation is scheduled to release an updated economic feasibility study sometime in June, 1983. The final environmental analysis report by the Fish & Wildlife Service is scheduled for release in Dec. 1983. Consequently, we wonder about the wisdom and efficacy of holding such premature hearings prior to the release of this information and specifically May 2? Certainly, the plentiful rainfall on the West Coast during the last two years does not add any degree of urgency to the Project.

The Sierra Club San Diego Chapter Water Resources Sub-Committee opposes the authorization of the Project prior to full release and public review of all the necessary data. Of particular concern at this time is the economic study. With the Reagan's administration deep concern over Federal expenditures a thorough benefit/cost analysis of the Project is certainly in order.

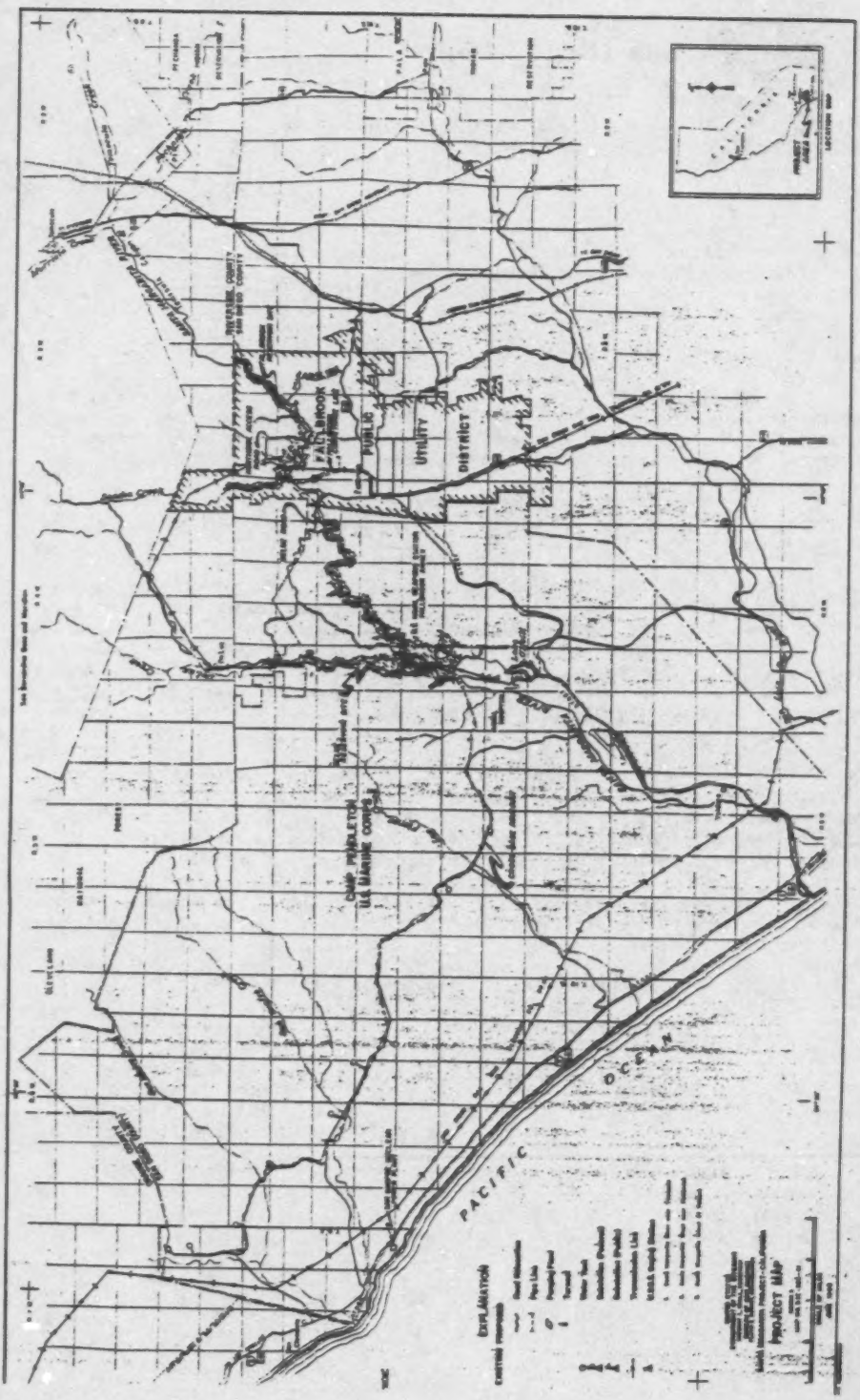
Furthermore, we sincerely hope that sometime during the process, hearings will be held here on the West Coast in the vicinity of the Project so that local input can be injected.

Kindly, keep us informed on the progress of this Project.

Very truly yours,

Henry T. Nowicki
Chairman, Water Resources
Sub-Committee

cc: Sen. A. Cranston
Sen. P. Wilson
Rep. Ron Packard
Russell Brown
Gordon Van Vleck
Rep. A. Kazen, Jr.


PACIFIC
OCEAN
FALLBROOK
PUBLIC
UTILITY
DISTRICT
CAMP PENDLETON
U.S. MARINE CORPS

February 1982

FACT SHEET
SANTA MARGARITA PROJECT, CALIFORNIA

The Santa Margarita Project is proposed as a multiple-purpose project in northern San Diego County, California near the town of Fallbrook. The U.S. Bureau of Reclamation (Bureau) prepared a feasibility report in 1970 and filed a final environmental impact statement in 1976. They are currently being updated to reflect changes in local conditions and requirements for Federal projects, such as fish and wildlife mitigation, endangered species, recreation development, earth dam design, water supply, water needs, project costs, and project benefits.

The project, as formulated in the previous documents, would consist of two earth dams and reservoirs on the Santa Margarita River and conveyance lines to serve the Fallbrook Public Utility District (District) and the Marine Corps Base at Camp Pendleton. The project would supply supplemental municipal and industrial water to the District and Camp Pendleton, and supplemental irrigation water to the District. In addition, the project would provide flood control, recreation, fish and wildlife mitigation, and regulation of imported water. The following facts and figures, from the feasibility report, may be subject to change as the result of the current update.

PROJECT FEATURES

Fallbrook Dam	Located 2 miles north of Fallbrook -- earth dam 185 feet high, 900 feet long -- reservoir capacity of 36,150 acre-feet -- reservoir surface area of 612 acres.
De Luz Dam	Located on Camp Pendleton 5 miles southwest of Fallbrook -- earth dam 204 feet high, 3,200 feet long -- reservoir capacity of 100,000 acre-feet (plus 49,000 acre feet flood surcharge) -- reservoir surface area of 1,549 acres at 100,000 acre-feet storage.
Fallbrook Conveyance Line	Buried pipeline from Fallbrook Dam to Fallbrook area -- concrete pipe, 30-inch diameter -- capacity of 28 cubic feet per second -- includes 2 pumping plants to lift water about 560 feet above Fallbrook Reservoir surface.
Cross Base Aqueduct	Buried pipeline from De Luz Dam northwestward across Camp Pendleton -- concrete pipe with diameter tapering from 24 inches to 10 inches -- capacity tapering from 10 cubic feet per second to 2.5 cubic feet per second -- includes 2 pumping plants to raise water about 360 feet above De Luz Reservoir water surface.
Recreation Facilities	At Fallbrook Reservoir -- 192 camp units, 120 picnic units, boat launching ramp, swimming beach, sanitary facilities, parking areas, roads, and trails. At De Luz Reservoir -- parking area, sanitary facilities, and fish cleaning facilities.
Lake Fishery	Fallbrook Reservoir would have a self-sustaining warm water fishery and a put-and-take trout fishery. De Luz Reservoir would have a self-sustaining warm water fishery.
Wildlife Mitigation	To mitigate wildlife losses at De Luz Reservoir, about 800 acres of nearby habitat improvement would be accomplished by Camp Pendleton. To mitigate wildlife losses at Fallbrook Reservoir, 2,640 acres of public land and about 380 acres of private land would be set aside and managed for wildlife.

PROJECT WAT SUPPLY

Based on riverflow data up to 1967, it is projected that two reservoirs would retain and deliver an average of 15,540 acre-feet of streamflow per year, which would be divided between Camp Pendleton and the District. Camp Pendleton has historically captured 4,000 acre-feet per year through ground-water recharge; consequently, the project yield would be 11,540 acre-feet per year on the average. Distribution would be as follows:

	Acre-Feet
Average Annual Project Yield	
Camp Pendleton	7,050
Fallbrook Public Utility District	4,490
Total Project Yield	11,540
Camp Pendleton Average Historic Supply	
Delivered by the Project	4,000
Total Water Delivered by the Project	15,540

PROJECT CONSTRUCTION AND OPERATION

The Bureau would construct the project and title to project facilities would remain with the Federal Government. The District and Camp Pendleton would operate project features located within their boundaries. A Bureau watermaster would supervise operations and would maintain the official records of water operation. Recreation facilities at Fallbrook Reservoir would be operated by the District.

PROJECT COST AND REPAYMENT

The project construction cost is estimated to be about $165,000,000 based on today's prices. Cost of the project would be distributed among the District, the Department of the Navy (Camp Pendleton), and the Federal Government (nonreimbursable costs). The distribution would be approximately as follows:

	Percent
Costs Reimbursable by Fallbrook Public Utility District	29
Costs Allocated to Camp Pendleton	48
Nonreimbursable Federal Costs	23
Total	100

The District reimbursable costs, plus the District's share of operation and maintenance costs, would be repaid to the Federal Government over a 40-year period beginning with the first year of project operation.

SUNDAYS IN SAN DIEGO HIKES

(1)

Purpose of hikes

Intense growth pressures are causing urban-style development to spill over into back-country areas north, east and south of San Diego. Steep slopes, thin soils, sparse native vegetation and limited water availability make it essential that appropriate land-use decisions and practices be followed to prevent serious degradation and/or loss of precious land and water resources.

Many of us are concerned with national/regional environmental issues but, like charity, resource conservation begins at home and we must have a care for the environmental quality of our own back yard. SUNDAYS IN SAN DIEGO HIKES are offered by the Sierra Club twice monthly, without prior reservations, to familiarize or reacquaint San Diegans with those areas in need of protection. The location of the hikes will be announced in radio and TV public service calendars and in the Hi! Sierrans newsletter published monthly by the San Diego Chapter of the Sierra Club.

What you can do

1 - Encourage friends to come on SUNDAYS IN SAN DIEGO hikes

2 - If you are a member of other groups with similar concerns, suggest that they publicize the hikes and offer resource people, background information, funding or other jointly coordinated efforts to encourage widespread participation in the hikes.

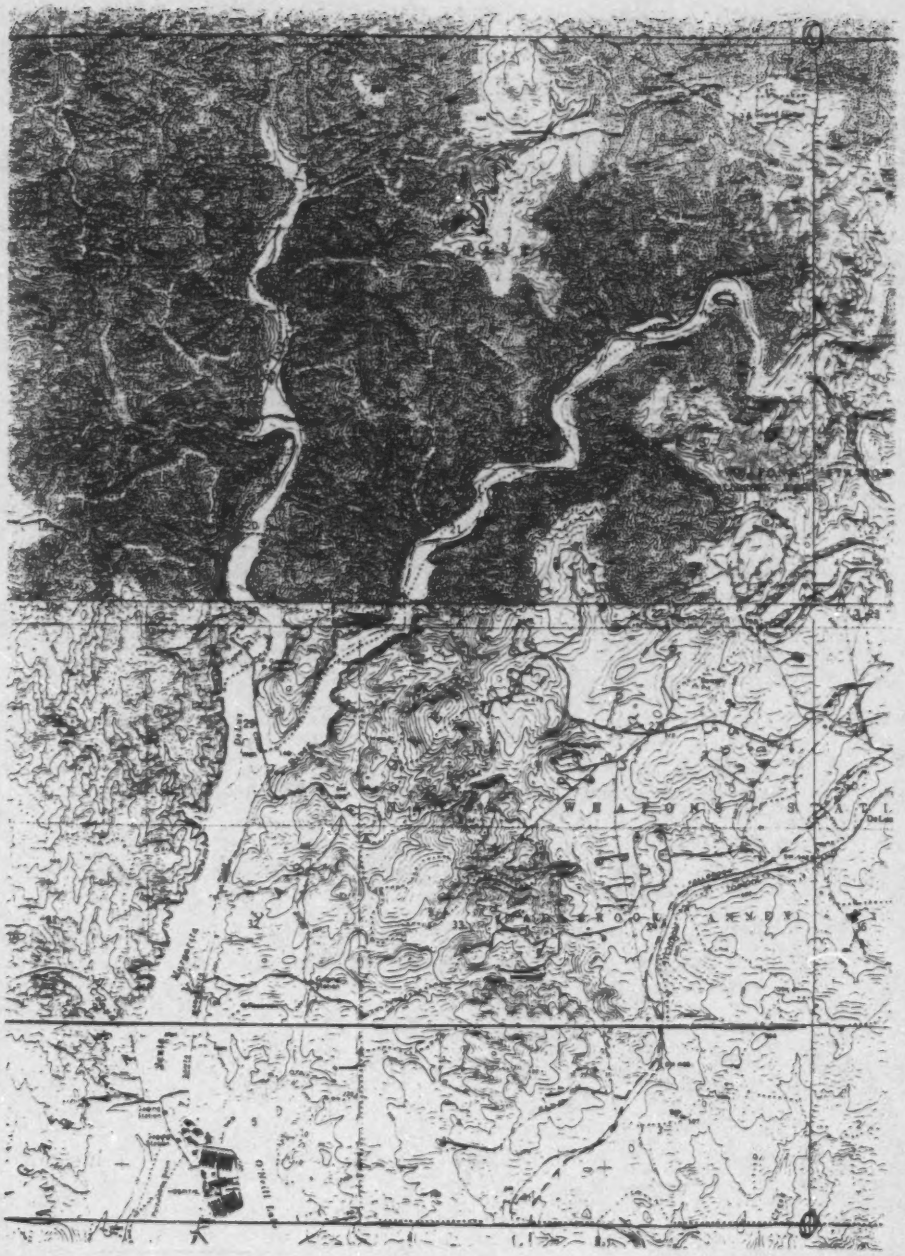
3 - Help us locate areas for future hikes and work on collecting background information, publicity, etc.

4 - Follow up the hike by making a brief written comment on material provided giving your personal, immediate reaction to what you have seen.

5 - Be willing to write and/or present a statement at a public hearing or a comment in an EIR review concerning areas you have visited.

6 - Other suggestions welcomed; don't be shy.

7 - Write or call your Supervisor/Councilman suggesting specific action.



SANTA MARGARITA RIVER PROJECT

Lead agency: Bureau of Reclamation
Sponsor(s): Fallbrook PUD and USMC, Camp Pendleton
Location: Near Fallbrook and on Camp Pendleton
Project: 2 earth dams: Fallbrook with reservoir capacity of 36,150 AF and De Luz with reservoir capacity of 100,000 AF, plus 40,000 AF flood surcharge.

Purpose: Provide 11,500 AFY supplemental domestic water for Fallbrook (4500 AFY) and USMC Base (7000 AFY), supplemental agricultural water for Fallbrook, flood protection for Camp Pendleton, emergency storage for both. Excess water to be sold to adjacent communities.

Cost: $234,000,000, including interest at 7 and 7/8%, allocated 29% to Fallbrook, 48% to the Dept. of the Navy, and 23% to non-reimbursable federal funds for roads, fish & wildlife mitigation. (3/4 of the cost borne by U.S. taxpayers)

Benefits: Owners of undeveloped land & avocado growers in Fallbrook and adjacent rural areas; USMC for emergency expansion of Camp Pendleton and flood protection. Public recreation includes fishing in De Luz Reservoir; artificially stocked trout fishing, boating, picnicking, day use, & limited camping at Fallbrook Reservoir.

Environmental costs: Santa Margarita River is a 27-mile continuous corridor of high quality riparian vegetation. It supports extraordinary diversity of plant, bird, & animal species (many rare or endangered) and provides concentrated habitat & food needed for successful breeding/nesting birds.

Diverse habitats include gallery forest, dense understory, chaparral & sage hillsides, oak woodlands, open flood plain with willow thickets & low sandbar vegetation, pickleweed saltmarsh, and sandy beach.

Preliminary study by FWS showed the following species: more than 400 plant, 200 bird, 100 breeding bird, 36 mammal, 20 fish, 20 reptile, 9 amphibian. Special status species include: CA least tern, Light-footed clapper rail, CA brown pelican, Least Bell's vireo, Willow flycatcher, Belding's savannah sparrow, Coast-horned lizard, Orange-throated whiptail, and Sticky live-forever (Dudleya viscida).

The project would inundate 12 miles of river & 8 miles of tributary creeks. 3300 acres of highly productive riparian habitat would be eliminated, degraded, or irreversibly altered, resulting in widespread loss of wildlife resources.

History & current status: First proposed in the 1920's, revived periodically, most recently in 1972. Updated economic feasibility and environmental analyses will not be completed until January 1984. H.R. 1581, introduced by Congressman Ron Packard, requests reauthorization of the project based on interim analyses. Hearings will soon begin, with approval sought by June conditioned on a later finding by Sec'y James Watt that the final economic and environmental reports are acceptable.

Proposed mitigation: Acquisition of riparian habitat on the San Luis Rey River to the south, but this river is already degraded by human activity and incapable of supporting such diversity and productivity.

US Fish & Wildlife initial estimate of the cost for total mitigation is $43 million. BU REC believes only 1/3 of this amount will be acceptable. Final environmental analysis will not be completed until January 1984.

Possible alternatives:

- covered storage tanks, filled from Pipeline 5 of the San Diego County Water Authority (SDCWA), would eliminate evaporation losses.
- As an assessed member of SDCWA, Camp Pendleton is entitled to but not using 15,000 AF/Y of imported water, deliverable through Pipeline 5.
- Check dams and spreading facilities on tributary creeks to help stabilize the river's flow. Designed to wash out in heavy flooding, they are relatively inexpensive to replace.
- Small reservoirs in tributary canyons similar to those used in the Santa Ana River management program in Orange County.
- Conservation measures to reduce water use in Fallbrook and the SDCWA service area.
- Regional projects undertaken by MWD could supply up to 1.4 million AF/Y, half of which would come from more efficient use of already-existing facilities. San Diego is entitled to 32% of MWD's supply; 200,000 AF/Y could eliminate the need for the small yield of 11,000 AF/Y Santa Margarita Project would supply at such high fiscal and environmental cost.

ACTION: Write to the congressional representatives and agencies listed below, requesting that Field Hearings be held in the San Diego area where local residents may give public testimony. Urge that decision should be based on full economic and environmental analyses; NO CONDITIONAL APPROVAL.

Send a copy of your letter to the Environmental Policy Center which is lobbying for responsible action on the Santa Margarita River Project.

****

* Senator James A. McClure, Chm.
Committee on Energy & Natural Resources
Senate Office Bldg., Wash., 20510

* Senator Alan Cranston
* Senator Pete Wilson
Senate Office Bldg.
Washington, 20510

* Bill Plummer, Regional Dir.
US Bureau of Reclamation
PO Box 427
Boulder City, NV 89005

* Roy Dodson, Chm
California Water Commission
PO Box 388
Sacramento, CA 95802

* Congressman Morris K. Udall, Chm.
Committee on Interior & Insular Affairs
House Office Bldg., Washington 20515

* Congressman Ron Packard (and your own representative)
House Office Bldg., Washington, 20515

* Gordon Van Vleck, Secretary
The Resources Agency
1416 Ninth St.
Sacramento, CA 95814

* Brent Blackwelder
Environmental Policy Center
317 Pennsylvania Ave. SE
Washington, DC 20003

Flow gently, sweet Santa Margarita

By Alice DeBolt

In the near future we'll be buying water by the drink here in Southern California." This dramatic statement was made by Paul Campo, director of the Natural Resources Office at USMC's Camp Pendleton as we sat in the Visitor Station discussing the future of the Santa Margarita River and its potential damming.

Legal battles have surrounded the Santa Margarita and prevented agreements on how much water should be allocated to whom, where dams should be located, and lastly, whether or not the river should even be dammed.

The Santa Margarita, described by environmentalists as coastal Southern California's last undammed river, originates in Riverside County where the tributary of its namesake is located. Many tiny streams in that area drain toward the sea, and finally, just north of the San Diego County line, Murrieta Creek and Temecula Creek combine to become one reservoir, the Santa Margarita river. Flowing southwest, the river passes the town of Fallbrook, flows through Camp Pendleton, and finally empties into the Pacific Ocean.

The water rights to the Santa Margarita have been fought for bitterly and expensively during the last century. As far back as 1926 a $1 million suit was filed in which the O'Neills, who owned the Santa Margarita Ranch (now Pendleton) sued the neighboring Vail Ranch (upper river). The water fights flared up again in 1951 when the federal government sued the little town of Fallbrook, and so the present altercation between the environmentalists and the dam proponents is not one of a series of battles over water in an area not meant by nature to support a great many people, cattle, agriculture or industry.

Southern California's water needs outstripped the local supply long ago, and despite careful damming of the rivers in San Diego County, it has been necessary to import water.

One side of the present debate involving the Santa Margarita contends we should not dam coastal Southern California's last free-flowing river, destroying irreplaceable habitat for flora and fauna, to add another drop to the public water reservoir and perhaps encourage more development. The opposing view claims that the other rivers have been dammed and the Santa Margarita should be contributing its share of precious water to the communal pot.

The first two large battles concerning the Santa Margarita were fought over water usage rights and the 1926 battle ended with 66 percent allowed for Santa Margarita Ranch and 33 percent for the Vail Ranch; the 1951-66 lawsuit between the federal government and the town of Fallbrook finally resolved with 60 percent going to Pendleton and 40 percent to Fallbrook. The present disagreement is of a different vein, however — whether or not to dam the river. Since 60 percent of the Santa Margarita belongs to Camp Pendleton/the government, and because "we-the-people" are the government, it behooves us to pay attention and become involved in deciding the fate of this river.

Two dams have been proposed for the Santa Margarita. The Fallbrook Dam would be located two miles north of the town of Fallbrook, just below the point where Sandia Creek joins the Santa Margarita River. This would be an earthen dam 185 feet high, 900 feet long, with a reservoir capacity of 36,190 acre-feet and a reservoir surface area of 612 acres.

The confluence of DeLuz Creek and the Santa Margarita River would be the site of the second dam, five miles southwest of Fallbrook on Camp Pendleton property. DeLuz Dam would also be an earthen dam, larger than the Fallbrook Dam, rising to 204 feet in height and 5,200 feet long with a reservoir capacity of 100,000 acre-feet (plus 40,000 acre-feet surcharge) and a reservoir surface area of 1,549 acres at the 100,000 acre-foot storage level.

This second proposed, the DeLuz Dam, would be large for San Diego County, larger than San Vicente or El Capetan. It seems far too large to be for the sole purpose of storing Santa Margarita runoff. Since Pendleton has enough water for their present population but claims that they will have to start importing water in 1995, it might be possible that the Department of the Navy (we-the-people/government) plans to bring in more troops. Since more people means more water usage, this could create a need for the dams to store imported water.

The Santa Margarita River: Southern California's undammed river

During a walking tour of the Santa Margarita with the local San Diego Audubon Society and Tom Scott, a wildlife biologist for the Bureau of Reclamation, I learned that the area supports 450 species of plants and 200 species of birds. Eighty of those bird species nest in the area. Tom pointed out the footprints of a mountain lion and told us to keep an eye out for a cinnamon-colored skunk with a blunt tail, one of the inhabitants here, along with the speckled rattlesnake. The sun was shining through the tall old trees in some areas, providing a golden umbrella, and I was quite taken by the magic of it.

The Audubon people are concerned because riparian (streamside) habitat has been greatly reduced in Southern California, causing animals and birds which frequent these areas to nearly disappear. As I listened to the Audubon board members talk about the Least Bell's Vireo, a bird that is on the California Endangered Species List, and many of the other creatures living in this habitat that are close to being endangered, I began to wonder if we as a species have forgotten that we didn't weave the web of life, but are merely a strand in it, and whatever we do to the web, we do to ourselves.

Paul Campo studied the Camp Pendleton area in 1991 as a new college graduate with degrees in hydrology and geology. In 1995 he took a post as director of natural resources for the Marine base, a job he has done for nearly 30 years now with intelligence and dedication, winning the 1977 Department of Defense "Best Environmental Program Award" and the applause and gratitude of local civilian environmentalists. His program includes using leach fields for reclaiming sewage; watching to see that underground gravel beams aren't drained (guarding against salt-water intrusion); replacing native vegetation after maneuvers; watching that the river mouth doesn't silt over; and maintaining water spreading structures which serve the dual purpose of slowing the water down (so that it will seep into underground basins) and spreading silt at some of the upstream sites.

Campo would like to see the dams built. Since the Santa Margaritas has been known to go from a trickle in drought years to flood flows upwards of 50,000 cfs in wet ones, he feels that it may be possible to save some of the runoff in many years for use in the dry ones. He also points out that the plan for the dams will leave a great deal of habitat undisturbed and that by controlling the flood waters, the area will remain more stable than in the past.

If the dams are to be built, one can only hope that even the Paul Campo will be around 100 years from now to make sure that if and when water gets really scarce here because of overpopulation, the management terms are still held firm.

Fallbrook Public Utilities District has an allotment of 1 percent from the San Diego Water Authority's share of water received from the Metropolitan Water District. They have been receiving and using a much larger amount of water, more like 4 percent or 5 percent. In 1985 when the Central Arizona Project comes into effect, San Diego County will probably be pinched for water. Fallbrook guess likely could be cut back to its legal 1 percent share.

Gordon Tinker, general manager for Fallbrook PUD admits that this poses a thorny problem for the district, forcing them to look at other ways of supplying at least part of Fallbrook's water needs. He has considered desalinization, finding that it would cost $600 to $5,000 per acre-foot (not counting the cost of the plant), which seems, in the age of technical/alchemical know-how to be a ridiculously high figure. Fallbrook now pays $200 per acre-foot for imported Metropolitan Water District water, and will probably pay upwards to $500 per acre-foot in 1990, according to Mr. Tinker. Two-thirds of Fallbrook's water needs goes to agriculture, and of course growers have been encouraged to practice the latest conservation methods.

At this point, Fallbrook PUD, Tinker and many of the people in Fallbrook are pro-dam, since they feel that although paying off the 40-year government loan to build the Fallbrook dam may result in higher water prices for a while, in the long run imported water prices will skyrocket enough to make the dam water cheaper. Evelyn Ashton, conservation chairman of the Buena Vista Audubon Society has a broader view, however. As an avocado grower and resident of Fallbrook PUD area, she is against the dams because she feels that area growth has to stop somewhere. Otherwise, we will be on a never-ending search for water that will not only kill our own rivers, but will destroy habitat in those areas that we import water from. She cites the Los Angeles-Mono Lake-Owens Valley relationship as an example.

The projected cost of the dams is another subject that has caused some debate. Marion Ekeart of the Bureau of Reclamation stated that using the two dam designs drawn up in 1969, the present cost of construction would be $190,000,000 for one or two dams.

Of the $190,000,000 projected dam cost, the Department of the Navy (Camp Pendleton/we the people-government-taxpayer) will pick up 66 percent of the tab. Fallbrook PUD will pay 26 percent, and Uncle Sam (us again) will pay the remaining 8 percent. This 8 percent will provide a good portion of the funding to develop boating, swimming, fishing and picnicking in the dam areas.

"Damn areas," said Alice Fries, North County resident, well-known environmentalist and outspoken researcher of the San Diego bird watching community. When asked about the project she commented further, "All those guys want to do is develop more

see River, page 6

SAN DIEGO
NEWSLINE

MARCH 16-23, 1983 VOL. 6, NO. 22 THE PROGRESSIVE NEWSWEEKLY 25¢

River Damming

(continued from page 1)

land, use more water, and roar around in motor boats doing more damage to the environment." Like the members of the San Diego Audubon Society, she is concerned about the disappearance of riparian habitat in California.

"If we keep reducing the amount of riparian (streamside habitat) in California at the rate we're going now," stated Fries, "we aren't going to be seeing much more of the Yellow-billed Cuckoo, Yellow Warbler, Willow Flycatcher, Downey Woodpecker, Swainson's Hawk." After a thoughtful pause, she pointed out that our stream/river areas now filled with willows, cottonwoods, and sycamore trees will someday be gone and replaced with cement-sided, freeway-bordered water control flood channels if we don't pay attention. I remembered my walk with the San Diego County Audubon Society along the Santa Margarita and wondered if in the future the same golden umbrella of trees would be available for a San Diego County resident to daydream under and feel the magic of.

People like Alice Fries have been instrumental in seeing that some tough environmental laws have been passed. Laws which, in effect say, "Whoa, let's look at this before we steamroll forward in the name of progress." The National Environmental Policy Act of 1969 mandates that the Bureau of Reclamation prepare an Environmental Impact Statement on projects like the dams which include: (1) description of the area before the project; (2) how much and what kind of impact the project will have on the area; and (3) mitigation features, prioritized.

The Bureau of Reclamation is responsible for updating the 1969 engineering design and for the Environmental Impact Statement which they usually contract out to a sister organization, the Department of Fish and Game. The Bureau plans to be able to have a status report describing the viability (economic feasibility) of the project ready by the end of March so that the dam bills can be introduced into the new Congress. The Department of Fish and Game will not have the Impact Statement data complete until October 1983, however, and so the bills will have to have a clause that states "pending" or "subject to" working out environmental mitigation.

The dam bills will be introduced to the Senate Energy and Natural Resources Committee and the House Sub-committee on Water and Power Resources. Public hearings will be held by both committees, giving lobbyists a chance for input. For the we-the-people types, that means pooling money together to sponsor a lobbyist in Washington who will present their views (and/or writing individually to their congressperson). Meanwhile, the Bureau of Reclamation plans to hold public hearings locally in California for lobbyists/public input sometime during 1985. The projected calendar for the dam plans list construction for the Fallbrook dam during 1986-1990 and Pendleton 1989-1993.

Southern California's water needs outstripped the local supply long ago, and despite damming, it has been necessary to import water.

If the plans for the dams go through, a possible future scenario for San Diego County can be provided by driving through L.A. Note the cement-lined river channels that once supported wildlife. Look at Arizona and the Salt River (Roosevelt Dam) and the Gila River (Coolidge Dam . . . which, by the way, has been full only once since its construction in 1929 . . . would the Santa Margarita dams fair any better?) The downstream part of the Salt-Gila is dead. The wildlife that once lived, bred and migrated through this area is no longer seen. Even though the Fallbrook-Pendleton dams have strict environmental requirements which they are forced to comply with at the present time, couldn't a serious water shortage (because of too much growth) cause us to turn the Santa Margarita into a Salt-Gila?

If we-the-people/government decide that we don't want to kill a river — and on the other hand we don't want to see Fallbrook's orchards die for lack of water — a possible solution might be found by adopting a cooperative rather than a competitive mind-set regarding the use of water by the people who share the H_2O provided by the San Diego County Water Authority. We-the-people might be able to solve Fallbrook's problem of a 1 percent allotment and a 4 percent requirement by starting a "Save an avocado tree, flush toilet only when needed" campaign which could conserve the needed 3 percent and produce a win/win solution for agricultural Fallbrook and the river-lovers. Of course, the $190,000,000 estimate may go up so astronomically when the final bureau report is complete that the cost effectiveness of the dams won't be viable, and Fallbrook PUD, Pendleton and Congress will drop the whole project.

In conclusion, it seems that we-the-people/government probably should start thinking a great deal about a statement that Dr. Amadeo Rea of the San Diego Natural History Museum points out in his soon-to-be published book, *Once a River*. "We should start asking hard questions of ourselves about the land in which we live and to which we must look for support for future generations."

Let us hope that we don't have to buy water by the drink in the future, and that we as a species are clever enough to solve our water problem and still maintain harmony and balance with the other strands in the web of life. ■

San Diego Chapter of the Sierra Club

House of Hospitality, 1549 El Prado, Balboa Park
San Diego, California 92101

CONSERVATION ACTIVISM FORUM #3

"RIVERS AND RIPARIAN RESOURCES"

The Sierra Club's third Conservation Activism Forum will focus on Rivers and Riparian Resources in a program to be held on Thursday, May 12th, at 7 PM in the Natural History Museum Auditorium in Balboa Park.

Dr. Phil Pryde, Professor of Geography at San Diego State University, will open the program with a review of the historic and proposed future development of local water resources through building dams on the County's major river systems.

Guest Speaker will be Thomas J. Graff, General Counsel for the Environmental Defense Fund, who will discuss alternative solutions for meeting Southern California water needs, the subject of a recently published EDF report.

They will be followed by a panel which will address a variety of riparian resources.

Riparian habitat - Dr. Amadeo Rea, Natural History Museum Staff

Beach sand replenishment - Dr. Jeffrey Frautschy, former Deputy Director, Scripps Institute of Oceanography

Wildlife resources of the Santa Margarita River - U.S. Fish & Wildlife Service

Fresh water & coastal wetlands - Dr. Joy Zedler, San Diego State University

Archaeological resources of Pamo Valley - Stan Berryman, SD County Archaeological Society

~~Invited~~ Co-sponsors of this program include the Audubon Society, Friends of the River, California Native Plant Society, the Natural History Museum, Citizens Coordinate for Century III, League of Women Voters, SD County Archaeological Society, Nature Conservancy, Southwest Wetlands Interpretive Association, Desert Protective Council, American Association of University Women, The Ecology Center, Mountain Defense League, Friends of the Earth, SD Fly Fishers Club, and the National Coalition for Marine Conservation.

There is no admission charge and the public is invited to attend.

BUREAU OF RECLAMATION

GENERAL INVESTIGATIONS
CONSTRUCTION AND REHABILITATION

Part 1

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1984

202

PF-44 (10-78)
Bureau of Reclamation

SCHEDULE OF GENERAL INVESTIGATIONS PROGRAM

PROGRAM ITEM	STATE	ESTIMATED TOTAL	TOTAL TO SEPTEMBER 30, 1982	PROGRAM FY 1983	ESTIMATE FY 1984	BALANCE TO COMPLETE
Lower Colorado Region - Project Investigations (continued)						
Lower Colorado Water Supply Study (continued)						
water, legal and institutional problems, and alternative water sources. FY 1984 funds will be used to determine the preferred alternative. The State of California and local interests support the study. California interests have provided data to assist in the conduct of the study and have also helped develop support for the study. This study is scheduled to be completed in FY 1985.						
Santa Margarita Project	California	$669,000	$178,572	$310,428	$180,000	---
This project is located in northern San Diego County, California, near Fallbrook and partially on the Camp Pendleton Marine Corps Base. The purpose of this investigation is to develop the water supply of the Santa Margarita River for agricultural and municipal and industrial use in the Fallbrook Public Utility District and for use on Camp Pendleton. The project would supply supplemental municipal and industrial water to Camp Pendleton and the District and supplemental irrigation water to the District. Fallbrook Reservoir would have a capacity of 36,150 acre-feet and De Luz Reservoir, located on Camp Pendleton, would have a capacity of 100,00 acre-feet, plus 40,000 acre-feet flood surcharge. A buried concrete pipeline would extend from Fallbrook Dam to the Fallbrook area and a buried concrete pipeline would extend from De Luz Dam northwestward across Camp Pendleton to supply various installations with water. Recreation facilities would be built at Fallbrook Reservoir and at De Luz Reservoir.				A feasibility report on the project, prepared by the Bureau of Reclamation, was submitted to OMB in June 1976. However, 10 years have elapsed since completion of the studies on which the feasibility report was based and there are concerns as to the current appropriateness of the dam design, water yield, economics, and wildlife mitigation of the project. There is also a need to update the geologic studies with a seismic analysis and to reevaluate dam design in light of current standards for seismic adequacy. Additional design work is required. The Fallbrook Public Utility District is assisting in the conduct of the public involvement portion of the study. The total estimated cost was increased $109,000 due to the need to conduct unanticipated damsite geology work. This study is scheduled to be completed in FY 1984.		

GPO 811-381

Friday, April 1, 1983 THE CHRISTIAN SCIENCE MONITOR

california

FALLBROOK, CA. TAX PLANNING — SAVE $17,500. If you are serious about acquiring property which makes sense and would like to shelter income from taxation, then you should examine the benefits offered by this 8.2 acre avocado grove. For the taxpayer in the combined Federal and State marginal income tax bracket of 50%, there is available up to $17,500 in 1982 TAX SAVINGS. URNER REALTY, INC., 1667 South Mission Road, Fallbrook, CA 92028. (619) 728-5634.

'Glut' Threatens Avocado Growers

Nov 1982

Los Angeles

By TOM GREELEY, *Times Staff Writer*

FALLBROOK — Packers paid growers only 18 cents per pound for avocados Tuesday and predicted that a glut of the fruit on the market might cause the price to fall even further, another signal that it could be a dismal season for avocado farmers despite their third straight bumper crop.

"The basic problem is that there is just more fruit available than there is demand for the product," said Steve Taft, owner of the packing firm Eco Farm Corp. of Temecula. "Our place is just flooded out with fruit we can't get rid of."

Taft's firm was accused Monday by the Avocado Growers Bargaining Council of artificially manipulating downward the price paid to growers. Eco Farm Crop. is one of three packers contracted by the growers council, which claims to represent farmers who produce 20% of the state's avocado crop.

"That's ridiculous," Taft said of the council's claim. "We're simply moving with the market, reflecting a simple supply-and-demand situation. For some reason, the California fruit just isn't as popular with consumers so far this year."

Taft said packers are reacting to "a reaction by the chain stores (supermarkets), who say the fruit isn't selling well for some reason."

He also blamed an unusually high percentage of Florida avocados on the market for driving down the price of the locally grown fruit. According to the growers council, half of the 7 million pounds of avocados on the market came from Florida.

"The California crop was about three to four weeks behind. Our crop here didn't develop fast," Taft said. "That let Florida grab a good part of the market."

Growers deny that the Florida fruit is a factor, and said 7 million pounds does not represent a glut on the market. They accused packers of taking advantage of a situation in which many growers will accept very low prices to unload their fruit.

"Avocado growers are just not organized enough to fight this kind of a thing — many are independent and will accept the best thing that comes along without looking at how this affects the whole picture of the industry," said grower Bob Ranney.

"If we would just say that we would not go below a certain price, the problem would be solved."

Taft said that the price a grower must charge to earn a profit varies. "The guy who has owned his land for years and has it paid off doesn't need nearly as much as a guy with a big mortgage, and there are a number of similar factors," he said.

"When there is a glut on the market, a grower has to take the best price he can get, and so does the packer. That's what's happening here."

Zutano avocados are the first produced during the California avocado season, which began Nov. 1. Growers acknowledge that Zutanos are not as popular as the Fuerte and Haas varieties, but said the price paid to them should not fall below 24 cents per pound if they are to break even on their harvest.

When the season began, packers were paying 35 cents per pound for Zutanos, but the price has fallen steadily, alarming growers, who see a repeat of the 1980-81 season, when they received an average of only 17 cents per pound for their fruit.

"We cannot live through another season like that one," said Bob Boeke, a local grower. "That's why something has to be done now."

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FALLBROOK PUBLIC UTILITY DISTRICT

990 E. Mission Road – Telephone 728-1125
FALLBROOK, CALIFORNIA 92028

RED MOUNTAIN RESERVOIR EXPANSION

Background

The Fallbrook Public Utility District provides retail water service to a 16,000 acre area of North San Diego County. 5500 service connections meet the needs of a population of 22,000, through a single distribution system serving both agricultural and domestic/municipal needs. All water is imported via the Metropolitan Water District of Southern California and the San Diego County Water Authority aqueduct system from the Colorado River and Northern California. The District currently takes water from this system through four connections to county pipelines #1, #2, and #4. Because of growth in other districts only having access to pipelines #1 and #2, FPUD will only be able to take deliveries from pipeline #4 after 1985. Approximately 2/3 of the water goes to agricultural use, consisting primarily of permanent tree crops of avocado and citrus, with about 5% going to tomatoes, strawberries, and wholesale nurseries. Normal irrigation schedules for these groves are every 4-5 days in the summer and every 2 days during hot-dry Santa Ana conditions.

The main regulation reservoir for the District is Red Mountain Reservoir, an open unlined reservoir on East Mission Road, built in 1949, with a capacity of 210 acre-feet. This represents only 2-1/2 days of summer peak storage.

Project

This project will enlarge the storage capacity of Red Mountain Reservoir by reshaping the natural basin and raising the height of the dam by 50 feet. The enlarged reservoir will be lined with concrete or porous asphaltic concrete and will contain 1430 acre feet or approximately 3 weeks of peak summer demand. The reliability of the District's water supply will be significantly increased. It will also improve water quality and decrease seepage losses by lining the expanded reservoir. The U. S. Fish and Wildlife Service and California Department of Fish and Game have reviewed the Environmental Assessment for the project and have no adverse comments or objections.

Financing

The District has filed a loan application report with the Bureau of Reclamation for a $12,445,400 federal loan under the Small Reclamation Projects Act, PL 84-984. The Secretary of Interior approved the project on November 29, 1982 and has forwarded it to Congress for funding. The District will contribute $519,600 in local funds. Repayment of the loan will be over 26 years and be derived from a surcharge on water rates. The initial surcharge will be 15¢/1000 gallons decreasing to 10¢/1000 gallons On an acre-foot basis, this is approximately $49/acre-foot initially decreasing gradually over the life of the loan to $33/acre-foot. Because this reservoir cannot be taken out of service during the summer months, most of the work will have to be done in one construction season from November to May. About 25% of the project will be done in advance without taking the reservoir out of service. Therefore, 25% of the financing is required initially with the remainder in the second year. Repayment of the loan does not start until the construction is completed.

Other Small Reclamation Projects in San Diego County

Valley Center MWD, Rainbow MWD, and DeLuz Heights MWD have recently constructed storage and distribution facilities through this program. Ramona MWD has a similar loan request pending for a dam and reservoir.

CWT/am

3/17/83

Environmental Group Offers Solution To Southern California Water Quest

By CHERYL CLARK
Staff Writer, The San Diego Union

A simple trade with the large water agency serving agricultural Imperial County could help the huge Metropolitan Water District avert the water crisis it says Southern California soon faces, a Berkeley-based environmental group said yesterday.

The group proposes that the MWD, which provides water to much of Southern California including San Diego County, pay for conservation projects in the one million acre Imperial Irrigation District east of here. In exchange, the water saved would be piped to the Los Angeles-based MWD, says the report by the Environmental Defense Fund.

The amount that could be saved, says the EDF report's principal author, Robert Stavins, is equal to slightly more than what the MWD may someday lose from what it takes today from the Colorado River. That shortfall will occur when Arizona begins to take its full legal allotment of Colorado River water, sometime after 1985, as mandated by court decisions.

That amount is roughly 400,000

(Continued on A-8, Col. 1)

acre feet a year, half of what the MWD takes from the Colorado River today. An acre foot of water is roughly the amount used by an average family in a year.

The EDF analysis indicates that such a trade would cost the MWD less per acre foot than the expansion of the state Water Project, included in the Peripheral Canal proposal that was defeated by voters last year, and estimates the net savings to MWD would be approximately $480 million over 10 years and more than $710 million over 20 years. In addition, the IID would have the use of those conservation installations beyond the trade period.

Copies of the 200-page report were sent to top IID and MWD officials, but they would not comment until they had read and analyzed the report.

However, MWD's public information director, Joann Lundgren, said that "on the surface, it appears to be a pretty thorough analysis."

Lundgren said, however, the report "doesn't appear to us to propose something we haven't already looked into," and that the concept "is well worth working toward."

The detailed report analyzes the cost to the MWD in building the next stage of the state Water Project, which would bring more water from the north to the south and which the MWD regards as necessary to avoid serious shortages when Arizona begins taking its full Colorado River entitlement.

The report compares the State Water Project expansion cost with the costs of conserving water in the IID, such as lining the All-American Canal and main and lateral canals with concrete, expanding seepage recovery systems, improving electronic monitoring to avoid irrigation spills, and improving methods to reclaim water once it has leached through the ground.

What makes the EDF proposal cost effective for the MWD, Stavins says, is that the cost of water to farmers in the IID is only $6.45 an acre foot; MWD would spend far more in transportation and construction costs for the State Water Project.

"Because of the low price IID pays for Colorado River water," the EDF report says, the IID "has not found it in its (economic) interest to invest in many of these water-saving facilities and practices."

Some of those conservation methods were outlined in a 1979 report by the Department of Water Resources, which said the quantity of water those methods might save was conservatively estimated at 438,000 acre feet a year.

The EDF analysis, entitled "Trading Conservation Investments for Water," is particularly significant for San Diego County, which receives 28-30 percent of the water sold by the MWD. That amount purchased from the MWD last year was 400,000 of the 540,000 acre feet used in San Diego County, said MWD's principal engineer, Richard C. Clemmer.

MWD generally imports 1.5 million acre feet a year, of which half comes from the Colorado River.

The Imperial district consistently accounts for more than 60 percent of the state's use of Colorado River water, the report says, using 2½ million to 3 million acre feet a year.

The EDF report takes into account the loss to the Imperial district of hydroelectric power it now produces with that 400,000 acre feet. By diverting that flow above Parker Dam, before the water gets into the IID, and sending it westward through the Colorado River Aqueduct toward Los Angeles, the IID would lose revenue from hydropower that water would otherwise bring.

EDF also takes into account the cost of damage to pumps and pipelines because of the higher salt content of Colorado River water compared with State Water Project water.

However, even including the loss of that power income to IID and adding in the cost of salt damage, the net cost is far lower with the IID transfer than with bringing water through a new state Water Project link, Stavins said.

One perceived block to such a plan, says EDF [illegible] general counsel Tom Graff, is based on "a common belief" among those who hold water rights in California that if they try to transfer that water, they will forever forfeit rights to it.

However, Graff and Stavins point out, recent as well as older laws indicate the proposed transfers of water are "legally permissible, and may even be legally mandated."

The San Diego Union
Editorials

PAGE B-8 THURSDAY MORNING, MARCH 31, 1983

Water Is For Everyone

The Environmental Defense Fund based at Berkeley has come up with an intriguing proposal to stretch out water supplies in Southern California. Water now being lost to evaporation and seepage in the irrigation canals of the Imperial Valley would instead become part of the supply going to the Metropolitan Water District (MWD) for distribution to communities in the Los Angeles and San Diego areas.

The EDF plan is under study by the MWD and the Imperial Irrigation District, and by state water officials in Sacramento. It deserves the most careful exploration. It represents the kind of innovative planning for water development that circumstances are forcing on California.

One of the circumstances is that the state of Arizona, beginning in 1985, will begin drawing off Colorado River water which it has been entitled to for many years but has been unable to use. Arizona will be claiming an allotment of water that in the meantime has been going to the MWD. This poses the threat of shortages for the 13 million people in five Southern California counties who rely on MWD for all or part of their water.

Another circumstance was made clear by the vote on Proposition 9 last June, which blocked construction of the Peripheral Canal around the Sacramento River delta. There is formidable political opposition to expensive and environmentally sensitive water projects designed to make more water from Northern California available to the south. Opponents say Southern California should make more efficient use of the water it is already receiving before demanding more.

A transfer of surplus water from the Imperial Valley to the MWD could deal with such circumstances. According to the EDF study, conservation measures in the Imperial Irrigation District could save 438,000 acre feet of water per year — slightly more than the amount of Colorado River water which California is scheduled to lose to Arizona.

The MWD would pay for lining the All-American Canal and other canals and laterals with concrete, and for other facilities to improve the efficiency of the Imperial Valley system. In return, the MWD would get the water which is saved for a specified period of years. The cost, according to EDF, would work out to a lower figure than what MWD would pay for water from the State Water Project if it were expanded to provide the same amount of water.

Imperial Valley farmers, in turn, would get a modernized irrigation system with no capital investment on their part and with no sacrifice in the amount of useful water they are receiving for their crops. According to the EDF study, they would benefit more by "selling" water to the MWD through this arrangement than they would by paying for the conservation work themselves and using the additional water to irrigate more land.

The EDF study can be a useful starting point for negotiations between the MWD and the IID. Lawyers for the two agencies are not as certain as the EDF that there are no legal obstacles to such a water transfer. The IID is understandably wary of any move that might jeopardize its historic claim to Colorado River water. Imperial Valley farmers are skeptical that conservation measures would save as much water as the EDF analysts believe. There is much to be explored.

What is significant about the EDF proposal is that it would make partners of two water agencies that otherwise might find their interests in conflict. Whether it is North vs. South or city-dwellers vs. farmers, factionalism must be overcome in dealing with California's water problems. Political stalemate over the Peripheral Canal already has cost valuable time. If the city-minded MWD and the rural-minded IID can come to a neighborly understanding, it would set an example for the rest of the state.

Las Vegas Valley Water District

April 26, 1983

Senator Don Nickles
United States Senate
Chairman, Senate Subcommittee
on Water and Power
Dirksen Building
Washington DC, 20510

Dear Senator Nickles:

We have recently received information that the Subcommittee on Water and Power of the Committee on Energy and Natural Resources will consider S. 818 (to authorize the replacement of existing pump casings in the Robert B. Griffith water project pumping plants 1A and 2A, and for other purposes) on May 2, 1983.

This letter and the attached Statement in Support of S. 818 urges the Committee's early and favorable action on S. 818.

We would request this letter and the attached statement be made a part of the record of the Committee's hearing regarding S. 818.

Should you or the Committee have any questions or need any clarification regarding our Statement, we would be pleased to respond.

Sincerely,

Donald L. Paff
General Manager

DLP/js

Enclosure

Copies: Senator Paul Laxalt
Senator Chic Hecht

Blind Copies: Duane Sudweeks, Director, Colorado River Commission
Commissioner Robert Broadbent, Bureau of Reclamation
N.W. Plummer, Regional Director, Lower Colorado River Region, Office Bureau of Reclamation
Russell R. Brown, Counsel, Subcommittee on Water and Power

3700 WEST CHARLESTON BOULEVARD
LAS VEGAS, NEVADA 89153 • (702) 870-2011

STATEMENT IN SUPPORT OF S. 818
BY
DONALD L. PAFF
GENERAL MANAGER
LAS VEGAS VALLEY WATER DISTRICT
TO
SUBCOMMITTEE ON WATER AND POWER
OF THE
SENATE COMMITTEE ON ENERGY AND
NATURAL RESOURCES

THE LAS VEGAS VALLEY WATER DISTRICT URGES THE COMMITTEE'S FAVORABLE ACTION ON S. 818. WE BELIEVE THIS LEGISLATION PROVIDES THE PROPER AND EFFICIENT ACTION FOR A FEDERAL-STATE-LOCAL JOINT VENTURE TO RESOLVE THE PROBLEMS OF FIRST STAGE ROBERT GRIFFITH WATER PROJECT PUMPS (FORMERLY NAMED THE SOUTHERN NEVADA WATER PROJECT).

THE WATER DISTRICT IS THE OPERATING AGENT FOR THE STATE OF NEVADA, COLORADO RIVER COMMISSION OF THE PROJECT AND HAS, SINCE ITS COMPLETION IN 1971, ALSO ANNUALLY RECEIVED AND PAID FOR APPROXIMATELY 80 PERCENT OF THE WATER DELIVERED BY THE PROJECT.

WE BELIEVE IT IS URGENT THAT THE CASINGS FOR THE EXISTING 12 PUMPS BE REPLACED AT THE EARLIEST POSSIBLE DATE TO AVOID A CONTINUATION OF THE EXTRAORDINARY MAINTENANCE PROGRAM CURRENTLY BORNE BY THE PROJECT WATER USERS. TO PUT THIS BURDEN IN PERSPECTIVE, IT IS ESTIMATED THAT WITHOUT REPLACEMENT OF THE TWELVE EXISTING CASINGS, THE MAINTENANCE COSTS WOULD BE APPROXIMATELY FIVE (5) TIMES NORMAL, NOTWITHSTANDING THAT THE PUMPS WOULD NOT BE RELIABLE, EFFICIENT OR HAVE A NORMAL LIFE. THESE COSTS ARE NOT LIMITED EXCLUSIVELY TO THE PUMP CASINGS BUT EXTEND INTO OTHER COMPONENTS OF THE PUMPING UNITS AND MOTORS. FURTHER, THERE IS AN ADDITIONAL COST FOR THE CONTINUING EXTRAORDINARY PERIODIC INSPECTIONS.

THE INITIAL PUMP MANUFACTURERS IN COOPERATION WITH THE BUREAU OF RECLAMATION, THE COLORADO RIVER COMMISSION AND THE WATER DISTRICT HAS FOUND THE MOST COST EFFECTIVE SOLUTION TO THE PUMP CAVITATION AND ALLIED PROBLEMS. THE SOLUTION DEVELOPED, OVER SEVERAL YEARS, CONSISTS OF REPLACEMENT OF THE EXISTING CAST STEEL PUMP CASINGS WITH STAINLESS STEEL CASINGS AND THE RECONDITIONING OF THE IMPELLER AND HEARING COMPONENTS. TWO STAINLESS STEEL CASINGS HAVE BEEN INSTALLED ON TWO OF THE FOURTEEN UNITS AND THUS ARE A DEMONSTRATED SOLUTION. REPLACEMENT OF THE REMAINING TWELVE UNITS WILL ALLOW THE FIRST STAGE OF THE PROJECT TO FULFILL ITS FUNCTIONAL AND ECONOMIC REQUIREMENTS, SUBJECT ONLY TO NORMAL AND EXPECTED ROUTINE MAINTENANCE ACTIVITIES AND COSTS.

WITH THE PASSAGE OF S. 818, THE STATE OF NEVADA, COLORADO RIVER COMMISSION AND THE PROJECT WATER USERS WILL ASSUME THE FULL RESPONSIBILITY AND COSTS OF INSTALLING THE NEW CASINGS AND ALLIED APPURTENANT PARTS.

IT IS OBVIOUS TO THE WATER DISTRICT, AS OPERATOR OF THE PROJECT AND AS THE MAJOR WATER USER, THAT A MOST SERIOUS PROBLEM CONTINUES TO EXIST IN THESE FIRST STAGE PUMPING UNITS. BECAUSE OF THE CONTINUED AND UNREPAIRABLE DAMAGE TO 12 OF THE 14 PUMP UNITS AND AUXILIARY COMPONENTS, THE WATER USERS HAVE IN THE PAST AND CONTINUE TO FACE HARSH AND EXTRAORDINARY COSTS FOR OPERATION AND MAINTENANCE. IN ADDITION TO THE EXTRAORDINARY COSTS, THE WATER USERS MUST FACE THE REAL POSSIBILITY OF PERIODIC INABILITIES OF THE PROJECT TO SUPPLY THEIR NEEDS FOR WATER.

S. 818 PROVIDES THAT 12 ADDITIONAL STAINLESS STEEL CASINGS BE PROCURED, WITH THE INSTALLATION AND ALLIED REQUIRED REPAIRS BE PERFORMED BY THE STATE OF NEVADA COLORADO RIVER COMMISSION AT THE COST OF THE WATER USERS. SUCH CLEARLY EVIDENCES THE WATER USERS PARTICIPATION AND COST SHARING IN ORDER TO SOLVE THIS COMPLEX AND COSTLY PROBLEM.

THE LAS VEGAS VALLEY WATER DISTRICT URGES YOUR EARLY FAVORABLE ACTION ON S. 818.

JAMES K. SEASTRAND
Mayor

MICHAEL DYAL
City Manager

Councilmen

THERON H. GOYNES
JACOB DAVID BINGHAM
DALE J. HUNTSMAN
LILLIAN STROM

City of North Las Vegas
2200 Civic Center Drive • P.O. Box 4086
NORTH LAS VEGAS, NEVADA 89030
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May 4, 1983

City of North Las Vegas
POST OFFICE BOX 4086
NORTH LAS VEGAS, NEVADA 89030

Honorable Don Nickles
Chairman
Subcommittee on Water and Power
Committee on Energy and Natural Resources
6327 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Nickles:

I am submitting this request for your favorable consideration and endorsement of S 818 which authorized the replacement of pump casings in the Robert B. Griffith Water Project (formerly the Southern Nevada Water Project) Pumping Plants 1A and 2A. The enactment of this legislation is of extreme consequence to the City of North Las Vegas as our municipal and industrial water supply is very heavily dependent upon this important water project.

The cavitation afflicting the pumps installed by Hitachi America, Ltd., under a contract administered by the United States Bureau of Reclamation, has been plaguing the performance of the Griffith Water Project in its ability to deliver water for the last twelve years. We understand that over one million dollars has already been expended in an effort to overcome the problem and in an effort to keep the pumps operational. We also understand the continuing cost to maintain the pumps in an operational condition will be excessively expensive and, even with this costly effort, will not avert their early obsolesence and replacement. I am sure you can agree the time for a final resolution to this lingering and costly problem is clearly overdue.

I have been advised an acceptable final solution has been found and agreed to by the parties involved, namely, by the Bureau of Reclamation and the State of Nevada acting in behalf of the water users. This solution is framed within Senate Bill S. 818. We would request this letter be made a part of the record of the Committee's hearing regarding this bill.

I extend my sincere appreciation for your time provided our request and look forward with anticipation to the successful implementation of the legislation embodied within S. 818.

Sincerely,

James K. Seastrand

JAMES K. SEASTRAND
MAYOR

njm

pc: Senator Laxalt
Senator Hecht

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